

Manufacturers Record

Exponent of America



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Baltimore, Md.
JULY 19, 1923

Have Americans Lost All Backbone?

The Citizens National Bank of Baltimore recently let a contract through its Chicago architect, Mr. H. J. White of Graham, Anderson, Probst & White, for the erection of a twenty-story bank and office building. The George A. Fuller Company secured the general contract. In order to protect the situation against the rising steel market the architects let the contract six months ahead of the general building contract to a subsidiary of the Bethlehem Corporation, a non-union plant. Afterwards the general contract for the building was let to the George A. Fuller Company.

Because the Bethlehem Company is a non-union plant the Union Labor people of Baltimore refused to do any work on the building. For weeks after the steel frame work was erected it stood out as a conspicuous landmark without a stroke of work being put into completion of the structure. The president of the local Federation of Labor was quoted in an interview in the daily papers as saying that the only way to secure the completion of the building was to tear down the entire steel structure because it had not been erected by Union Labor. But the Mayor of the City called a conference of the architects and the Union Labor interests of Baltimore. With this conference the Citizens' National Bank had nothing to do as it had previously let the contract for the building. At this conference Union Labor interests finally "consented" to permit the construction of the building to be resumed provided the architects would in effect publicly apologize to the community for their "mistake" in awarding a contract for open shop made steel, and as a part of that apology contribute \$2500 to some local charity.

And the architects accepted these terms.

When such decisions as this are reached we can but wonder if there is any backbone left in the people of this country. They bow and knuckle to Union Labor, and some of these big interests apparently are afraid to call their souls their own for fear that if they permit open shop labor to work on a building—in the far South, or the far North, or the far West—which they are constructing, they will have strikes called on them on every other building which they have under contract.

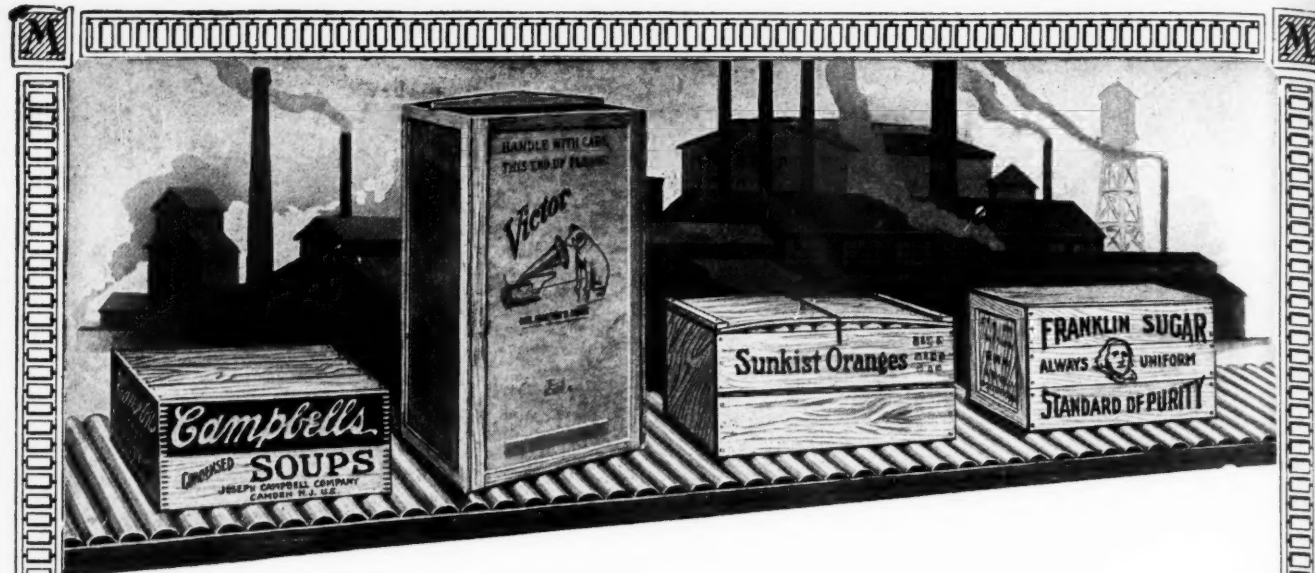
Supinely many concerns yield to the domination, which ultimately means the damnation of national and individual independence, by these radical Union Labor leaders.

It is time to be frank, and to call things by their true names. When business men and politicians subserviently bow the knee to the dictates of organized Union Labor when they know that Union Labor is doing all in its power to lessen the number of mechanics, to throttle every interest which does not yield to its demands, which encourages murder of non-union or independent men, and seeks to rule or ruin this country, they become co-workers with Union Labor.

Beneath the heels of Union Labor as now organized and radically controlled, American independence is being trampled in the mire, and many American business interests are surrendering their birthright of independence, for the sake of ease or temporary gain, and are afraid to call themselves free men.

The exactions imposed upon the Colonies prior to 1776 by Great Britain were but as trifles of the air compared with the exactions imposed upon the freedom of American citizens by organized Union Labor. Patrick Henry in that ringing appeal, which, like the shot at Lexington "was heard around the world," said "Give me liberty, or give me death!" But many American contractors and business men who are yielding to Union Labor, have no such spirit. They are saying, "We care not for liberty or independence. We permit the heel of Union Labor to rest upon our necks and to grind us down because it is a little easier than it would be to fight for our freedom and because temporarily we may perhaps make a little more money; and we are not concerned as to what comes after us. So we can live and prosper today we care not if the devil gets the country later on." That is a spirit that is abroad in the land to too great an extent for our future welfare.

Instead of its unwise action in urging the postponement of new building operations, have the American Construction Council and all allied and interallied contracting and financial and bonding interests the moral courage and backbone to take a stand against such a surrender to Union Labor as in the case of the Citizens' Bank building? Have these interests the courage and backbone to say that every state and every section must be left to decide for itself as to the open or the closed shop or will they strive to make their control dominant over building operations in every state?



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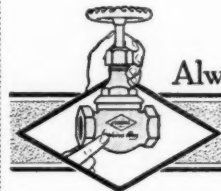


Fig. 142, flanged, Standard Iron Body Globe Valve.

Always marked with the "Diamond"

Jenkins Valves

SINCE 1864



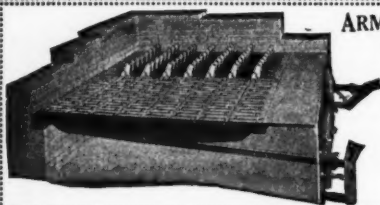
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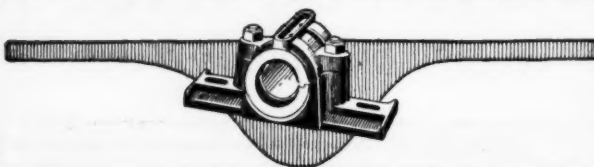
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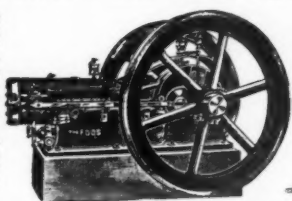
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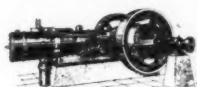
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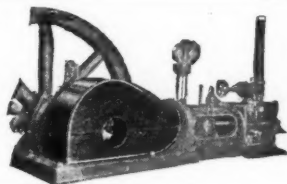
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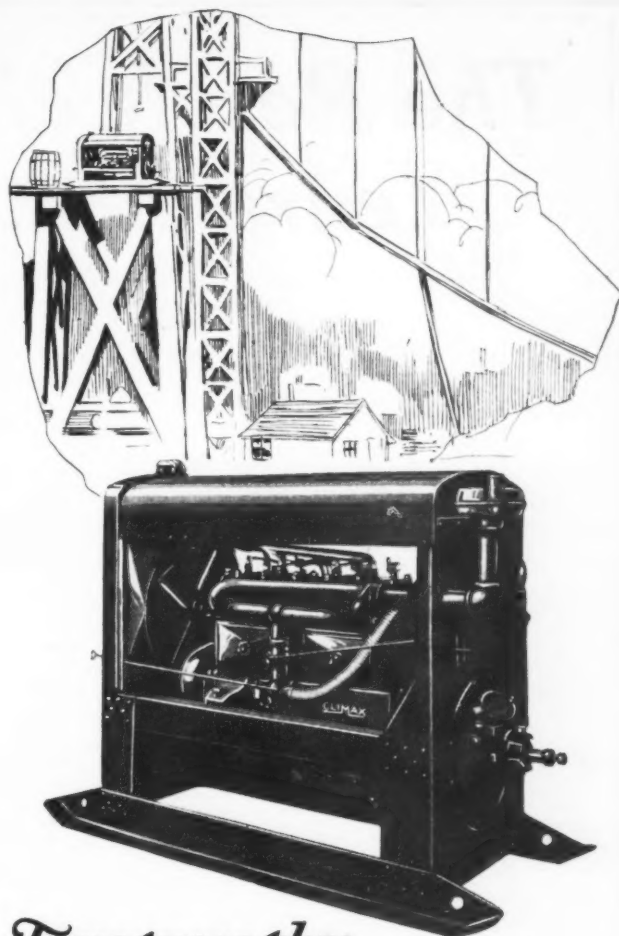
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Hanks Price Co., Agents,
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Gentlemen:

I have your letter of the 7th inst. directed to Mr. F. B. Fowler, and I will answer it as best I can. The Lentz engine was installed in the Summer of 1915, and the said engine has been on duty all of that year, day and night. Since the Fall of 1917 it has been running about half of the time, and has been running all of this time, and has not given the City a minute's trouble. Some small thing wore out but very little cost, and if the City were to buy another, the Lentz would look very fine to the City. I have been recorder for the past six years and know whereof I speak.

A. G. BUMFORD, Recorder.

Ely, Minn. Water & Light Dept.
April 18, 1912.

Mr. B. L. Hanks, Agent,
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Dear Sir:

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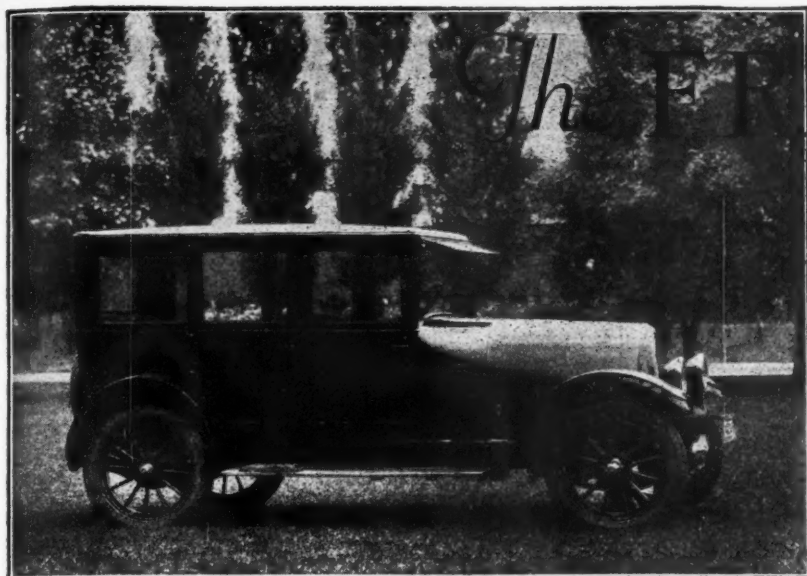
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THE qualities that have won unusual success for the Franklin car—economy of operation and maintenance—are no less important attributes of a steam boiler.

These same essential qualities have made possible the outstanding records of the Edge Moor Water Tube Boiler in a score of leading industries.

Franklin standards of manufacturing demand the most efficient equipment for the big plant at Syracuse. Power used there is generated by three Edge Moor Boilers of 605 H.P. each.

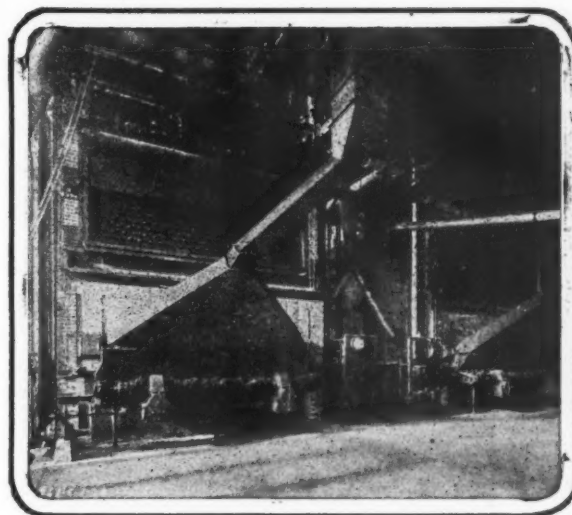
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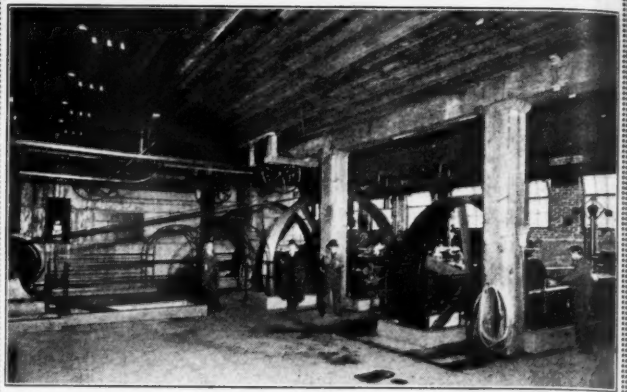


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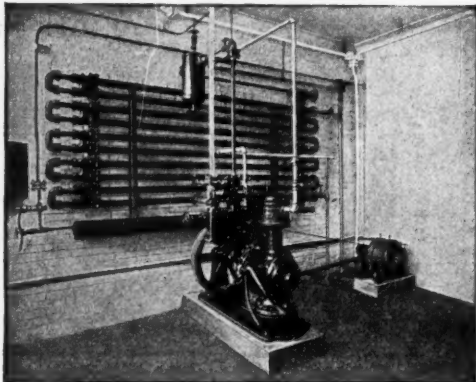
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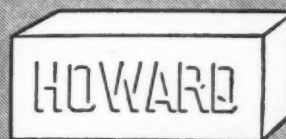
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Today's Margins Permit No Undue Production Costs

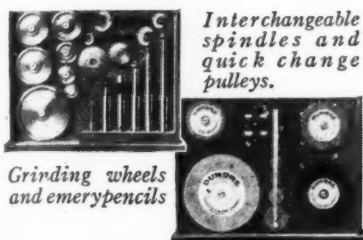
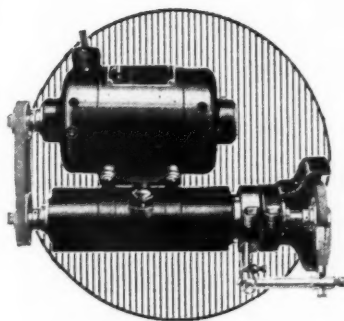
THE hurly-burly, production-at-any-price days are over. Metal working industries, faced with the stern realities of present day competition, are taking stock of themselves—eliminating wherever possible those little leaks, so alarming in the aggregate, which are eating away their margin of profit.

If the check-up in *your* plant reveals excessive costs on intricate grinding work, we suggest DUMORE High Speed GRINDERS as an effective remedy for this condition. With these handy, adaptable tools many two operation jobs may be performed on single purpose machines without changing the setup. Highly accurate, compact and convenient, these sturdy machines afford almost unlimited possibilities for economy. Factory or contract shop, tool-room or repair shop—all find that the adaptability of DUMORE grinders greatly increases their capacity for handling all manner of difficult precision work at lessened production costs.

If you would learn just exactly how great a saving could be effected in *your* shop through the use of DUMORE grinders send for our Grinder Bulletin. We shall be glad to analyze your grinding problems and show you how DUMORE grinders will enable you to economize where economy heretofore seemed impossible. Today is a good time to write for this bulletin—tomorrow you may be too busy.

WISCONSIN ELECTRIC COMPANY
6063 Sixteenth Street, Racine, Wis.

The illustration shows a No. 3 Multi-Speed Grinder correcting inaccuracies caused in hardening a blanking die. This set-up on a milling machine assures accurate centers.

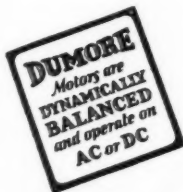


Interchangeable spindles and quick change pulleys.

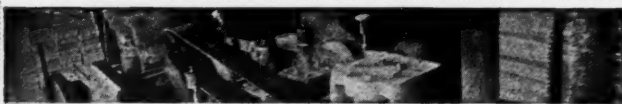
Grinding wheels and emery pencils

No. 3 Multi-Speed Grinder and Equipment

Motor $\frac{1}{4}$ h. p. Swivels to 5 different positions. Speeds—3,600 to 50,000 r. p. m. Can be used on any size lathe down to and including an 8". Permits use of wheels to 5" in diameter. Net weight 25 lbs. Tool equipment includes 6 interchangeable spindles and 7 quick change pulleys with complete set of 12 grinding wheels and 2 emery pencils.



DUMORE HIGH SPEED GRINDERS



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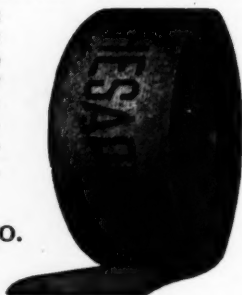
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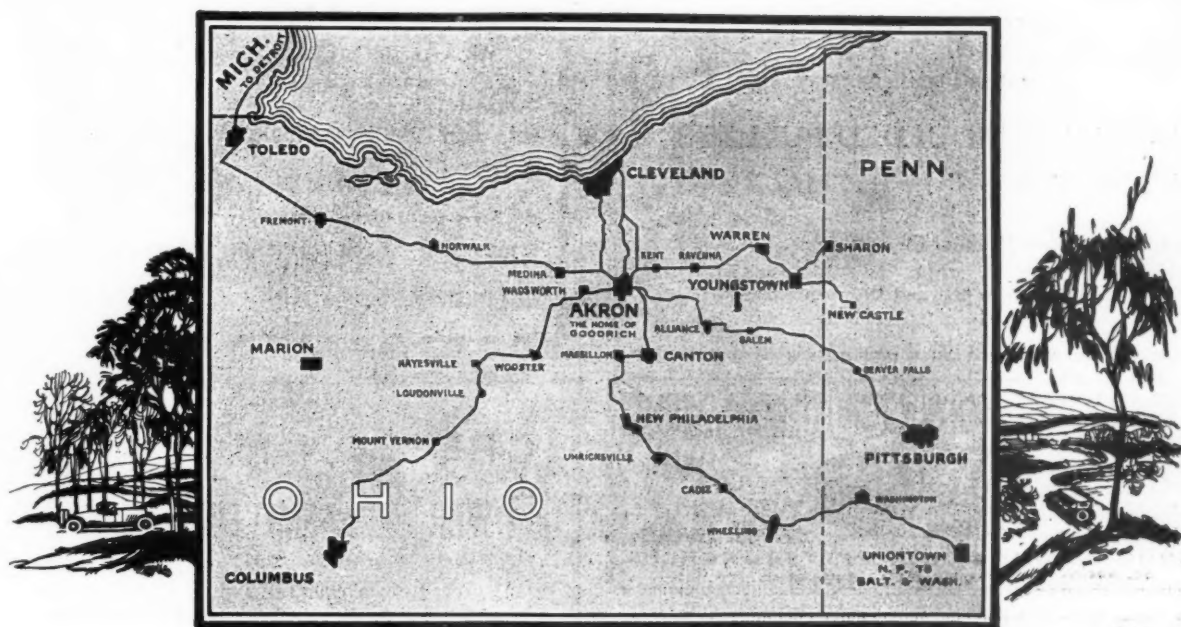
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HAS VERY FEW PARTS—NO
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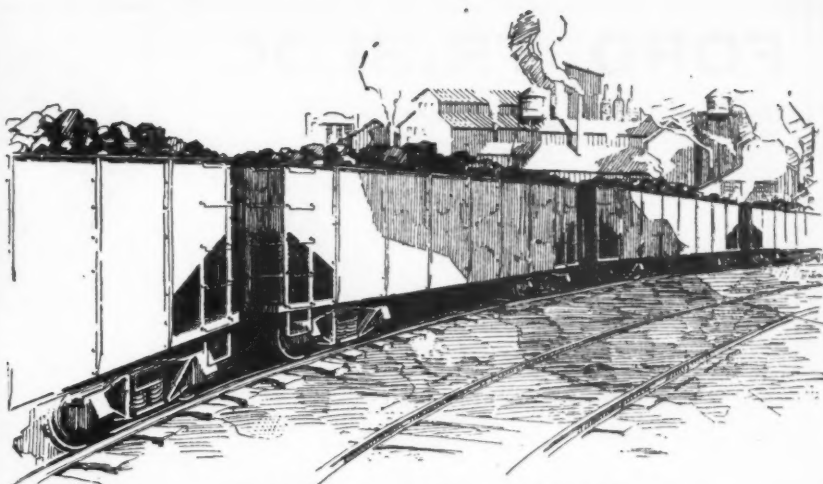
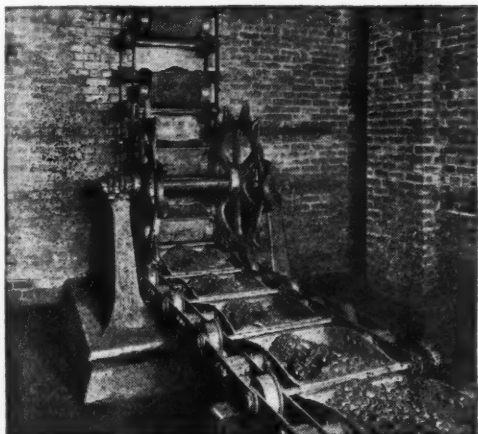
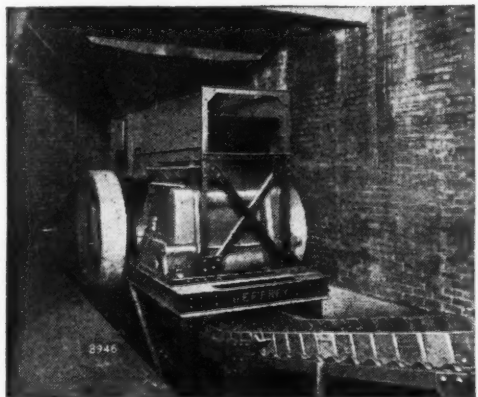
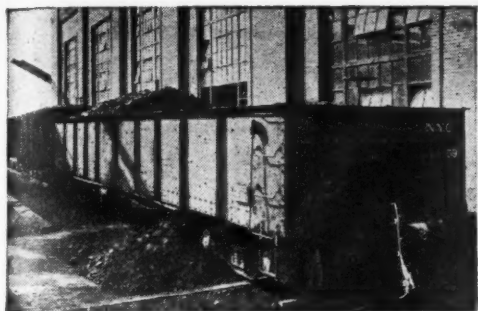
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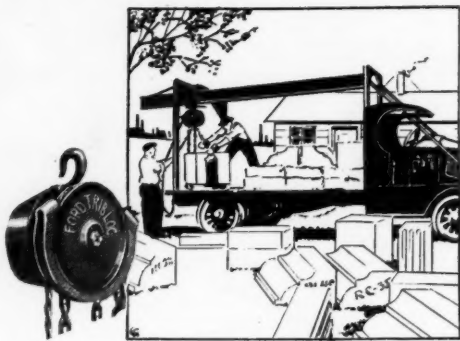
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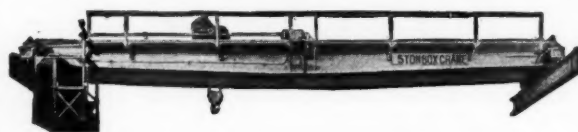


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Cutting the famous Ludlum Tool Steel at the Ludlum Plant

THE ALOXITE CUT-OFF WHEEL

A RUSH order comes to the stock room for some lengths of small diameter tool steel or someone is in a hurry for pieces of brass, bronze, angle iron, or some tubing—it's a job for the Aloxite Cut-off Wheel—the quick, clean-cutting wheel, that will take all the cut the power of your machine can give it.

This is a new, improved cut-off wheel. It cuts with astonishing speed—cuts true without binding, leaving little or no burr.

And it cuts cool without burning or bluing the stock. Every plant should have one or more cut-off machines equipped with these wheels as a matter of saving—as a matter of efficiency.

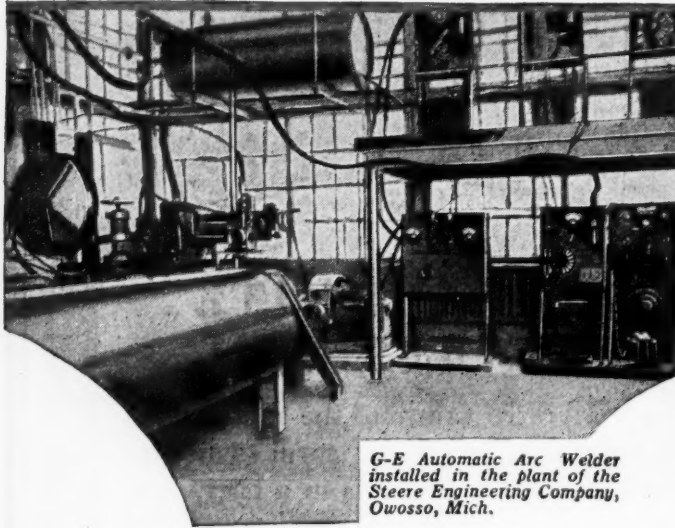
*The Proof is in a Trial Wheel
Deliveries Prompt*

The Carborundum Company
Niagara Falls, N. Y., U. S. A.

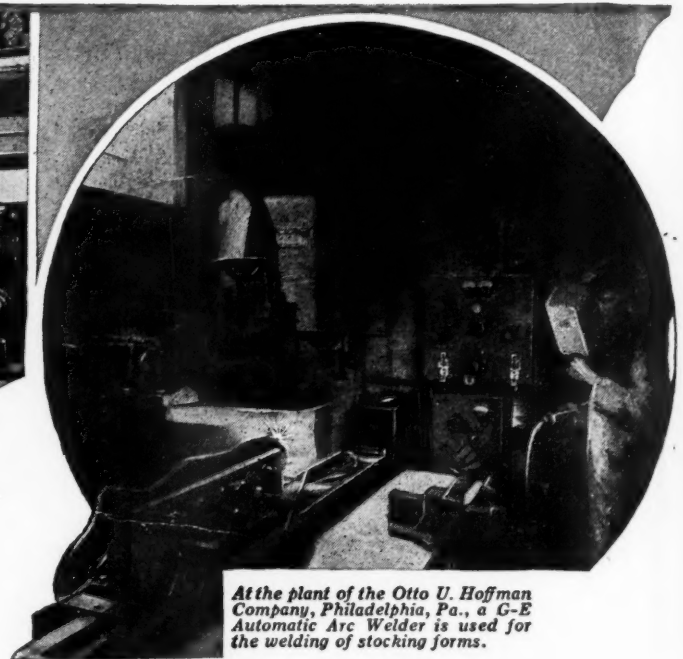
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The Carborundum Company, Limited, Niagara Falls, Ont.

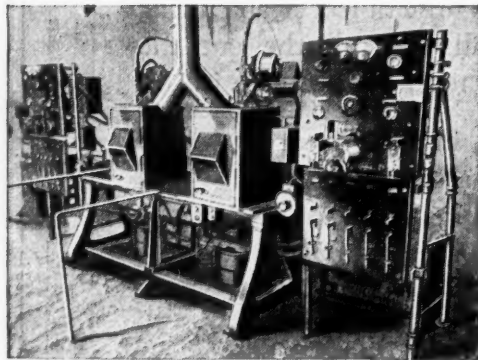
Why the Automatic Arc Welder?



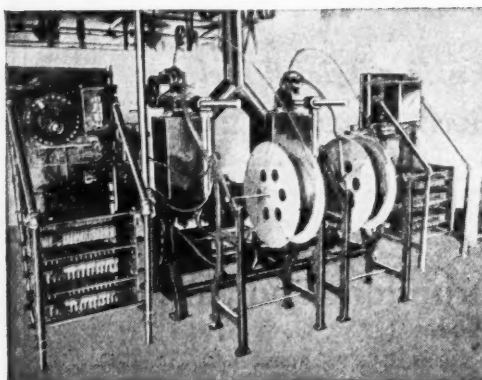
G-E Automatic Arc Welder installed in the plant of the Steere Engineering Company, Owosso, Mich.



At the plant of the Otto U. Hoffman Company, Philadelphia, Pa., a G-E Automatic Arc Welder is used for the welding of stocking forms.



G-E Automatic Arc Welders used in the Lowell plant of the Saco Lowell shops, largest manufacturers of textile machinery in the world.



Because of These Advantages

1. The replacement of hand labor, limited by physical conditions, with a machine *built for exacting service.*
2. The even deposit of the electrode metal, minimizing defects—and producing a more *uniform weld of better quality.*
3. Automatically maintains a constant arc length which results in steady operation—and a *faster deposition of metal.*
4. The use of continuous feed of electrode wire eliminates cold spots, *saves time and material.*
5. More speed—2 to 5 times faster than hand welding—*increases production.*
6. In all operations—*greater economy.*

A G-E welding engineer will gladly assist you in working out the best uses of automatic arc welding in your plant.

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The Use of Brass Means Satisfied Customers and Repeat Orders

The following letter, received recently from a resident of Richmond Hill, N. Y., calls attention to a subject which merits the careful consideration of automobile manufacturers:

Three weeks ago I purchased a _____.
[The car mentioned is one in the \$1,500 class.]
It runs fine, has splendid body lines, and I am proud of it.

Last night I got caught in a heavy rain. This morning when I went into the garage I was distressed to see the screws which fasten the snappy-looking trunk guards on the panel in the rear of the body literally oozing rust all over the back. The screws were nickel-plated, but instead of being Brass were steel. First time out in a rain and this is what happened.

Not only that, but the rivets which fasten on the trunk locks, have also played me the same trick. The wire rim which holds the glass of the tail light has also shed its nickel coat and looks like the mischief.

What I am worried about is what will happen when the damp, moist summer air in this neck-o'-the-woods gets in its fine work.

This is only a little thing, to be sure; but it has lowered my estimate of the _____ company considerably.

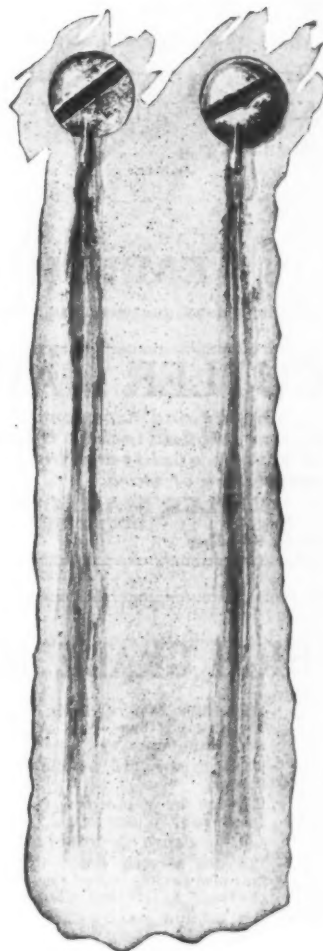
The few cents difference in cost of a few Brass screws and a piece of wire is a paltry sum for which to trade the confidence of a customer--for I contend that if the automobile industry is to continue to prosper in this country it is going to be on the basis of repeat orders by car users.

Perhaps YOUR production engineers have overlooked the practicability of using Brass for screws, bolts, nuts, washers and similar small assembly parts to cut manufacturing costs and improve the value of your product.

We have assembled in a folder, interesting data presenting the economy of Brass for screw machine work, which we will be glad to mail to you. Just drop us a postal card and it will come by return mail.

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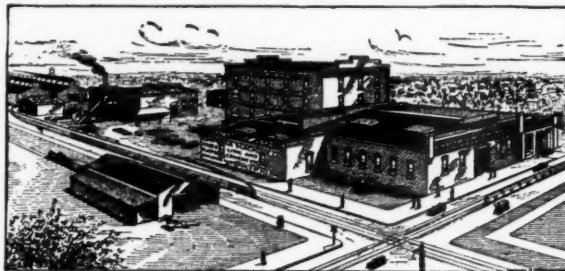
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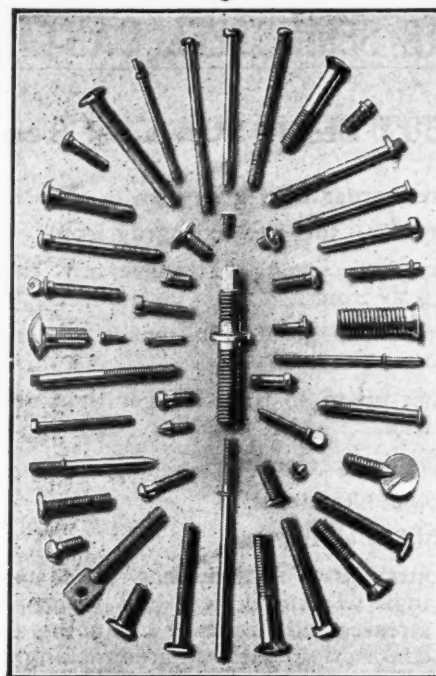
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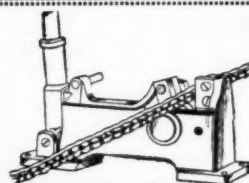
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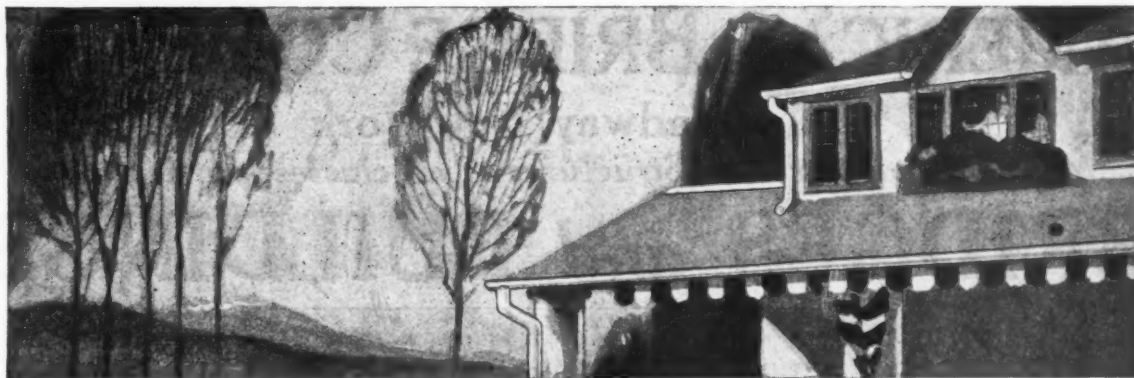
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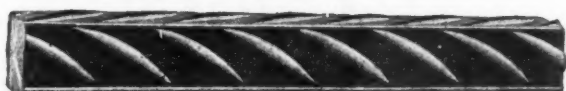
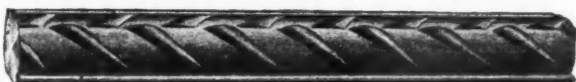
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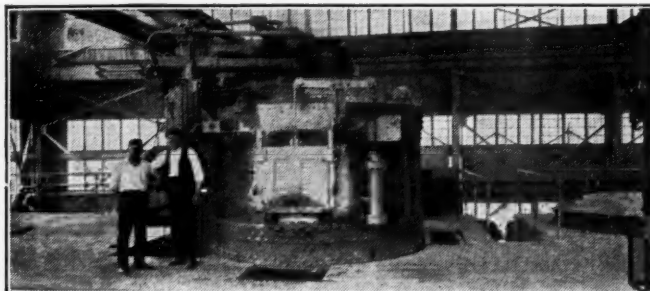
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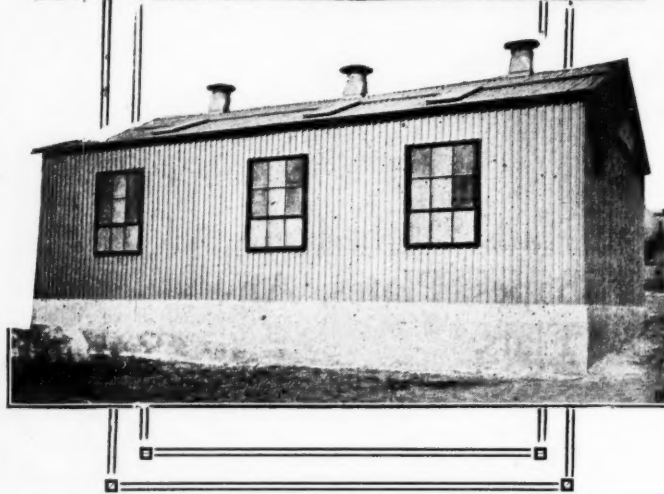
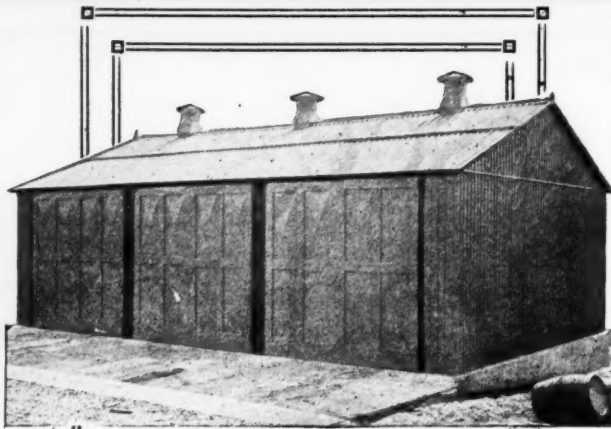
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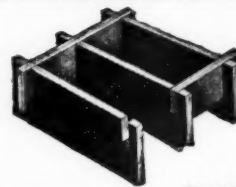
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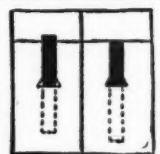
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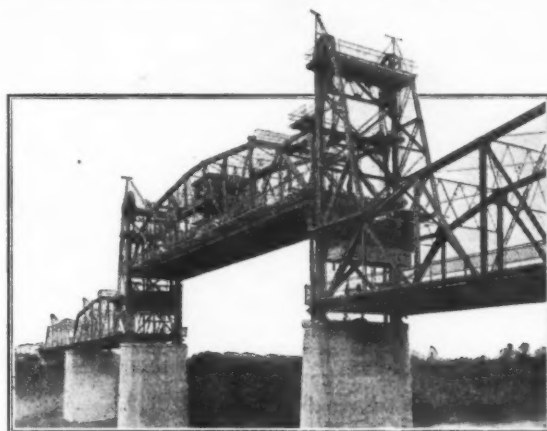
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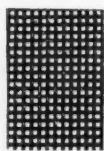
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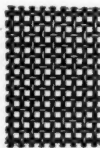
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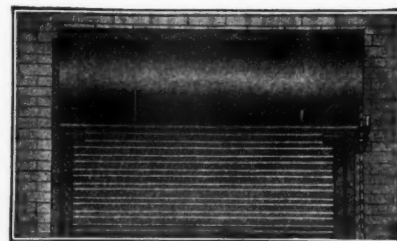
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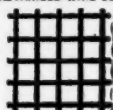


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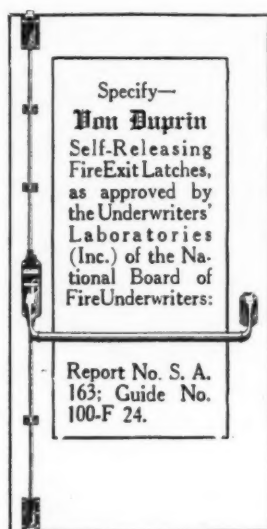
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They perform this task by making exit easy and sure at all times.

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Fatima Cigarettes Are Made In An "ANTI-HYDRO" Waterproofed Factory.

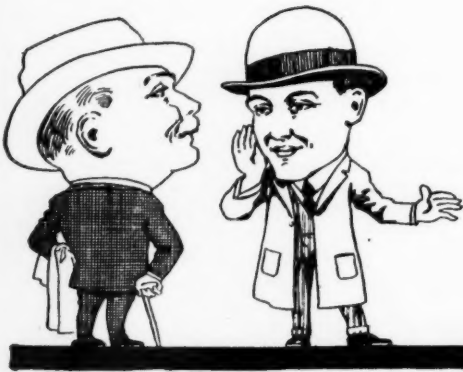
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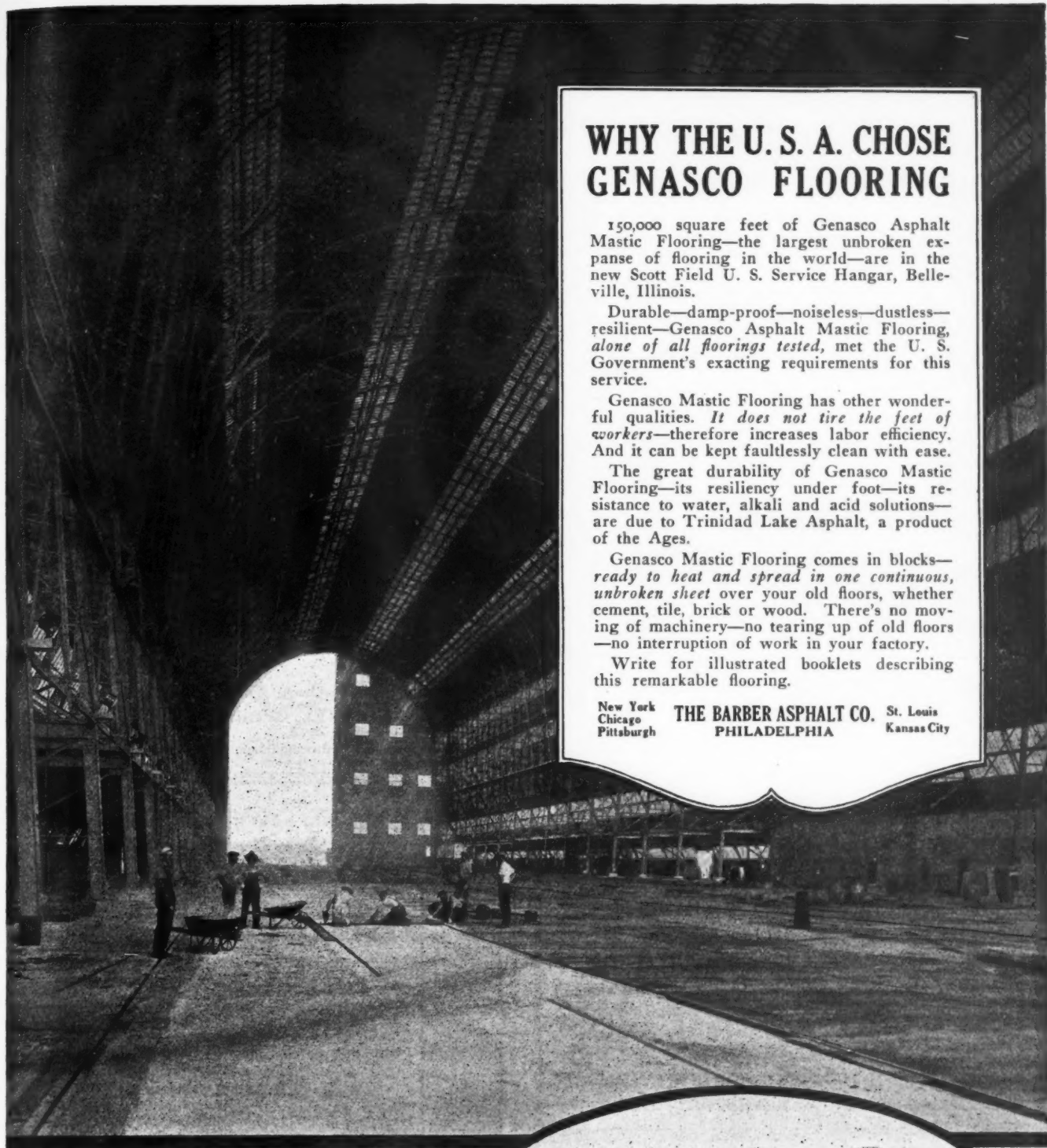
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WHY THE U. S. A. CHOSE GENASCO FLOORING

150,000 square feet of Genasco Asphalt Mastic Flooring—the largest unbroken expanse of flooring in the world—are in the new Scott Field U. S. Service Hangar, Belleville, Illinois.

Durable—damp-proof—noiseless—dustless—resilient—Genasco Asphalt Mastic Flooring, *alone of all floorings tested*, met the U. S. Government's exacting requirements for this service.

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The great durability of Genasco Mastic Flooring—its resiliency under foot—its resistance to water, alkali and acid solutions—are due to Trinidad Lake Asphalt, a product of the Ages.

Genasco Mastic Flooring comes in blocks—*ready to heat and spread in one continuous, unbroken sheet* over your old floors, whether cement, tile, brick or wood. There's no moving of machinery—no tearing up of old floors—no interruption of work in your factory.

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White matt glazed terra cotta



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Doing so will

reduce the cost for a given amount of terra cotta
obtain more terra cotta for a given expenditure
secure quicker delivery

Our catalog explains in detail how this
may be done and illustrates the designs

A copy will be sent you on request

Plate 5 in our catalog formed the motive
for the building shown, which houses the
offices of Dr. Hood and below, the leading
jewelry store of Tupelo

ATLANTA TERRA COTTA COMPANY

Citizens & Southern Bank Building
ATLANTA, GEORGIA

Discriminating Architects Specify Kingsport Artistic Brick

- Because** their soft delicate tones lend themselves to ideal architectural effects.
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A building faced or lined with ENAMELED BRICK always retains that fresh look usually associated with only a new structure.

Buy the best and protect your investment. Build for permanency.

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Samples on display in Architects Samples Corporation, New York City. See pages in Sweet's Architectural Catalogue, also Specification Data.

Judge Gary Said:—

"Gentlemen, it is in accordance with our instinct our judgment to say it pays a nation or individual to follow a Christian course."

And this confession, that he is an outstanding Christian (Methodist too) by the head of the greatest corporation in the world seems to have taken the breath away from the newspaper reporters.

But Why Not? Now Listen:—

Old "Hook 'er to the Biler" has been digging into Big Business for some years hunting for Religious Pay Dirt up to the writing of this ad.

I Have Not Found A Single Big Business on Any Long

Continuance But in It and Responsible for Its Success is To Be Found A Religious Man.

And here is more—Almost Every Purchasing Agent is A Church Fellow as you will find if you test it out.

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(P.S. When we go to see them about elevators we always talk about Sunday Schools.)

But of course all this has nothing to do with elevators—but what's the difference, you send in your order any way when there is a chance to

"Hook 'er to the Biler"

THE RIDGWAY & SON CO., Coatesville, Pa.

Elevator Makers to Folks Who Know
Over 3000 In Daily Use



Direct Acting



Double Geared



Elevator in Large Soap Factory in Jersey City

ELEVATORS MOFFATT MACHINERY MFG. CO.

HAND—BELT—ELECTRIC
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MACHINISTS AND FOUNDERS
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Standard for nearly half a century.

Passenger and Freight.

All Powers.

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Manufacturers of

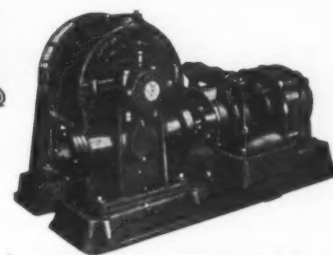
Passenger and All Types Freight Elevators

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Single Wrap Traction Type Machine

The Westbrook is the result of careful study and tests of competent engineers.

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ELEVATORS**

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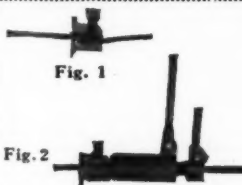


Fig. 1

UNIVERSAL CLAMPS

For Concrete Forms. Low in first cost. Simple, secure, speedy. Six sizes.

Fig. 1. Rod "kinked" and held secure.
Fig. 2. Rod tightener used before set-screw is tightened.

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For All Building Purposes

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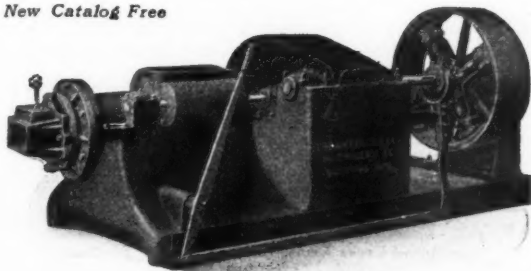
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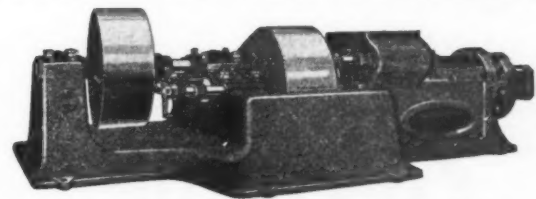
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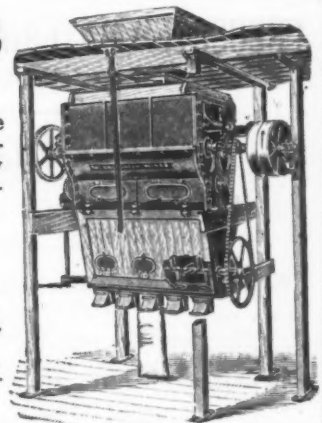
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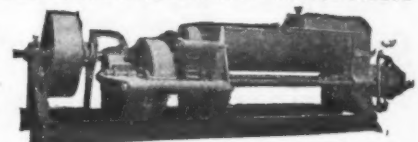
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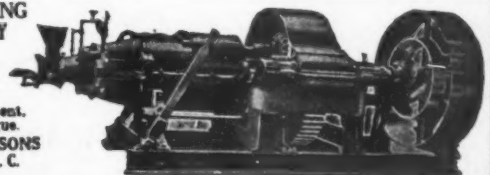


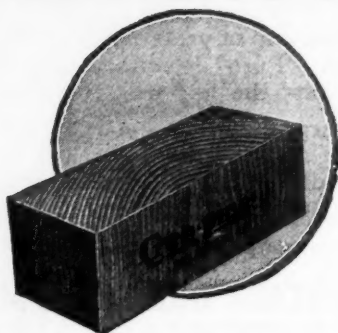
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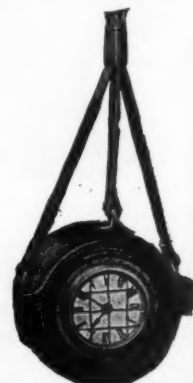
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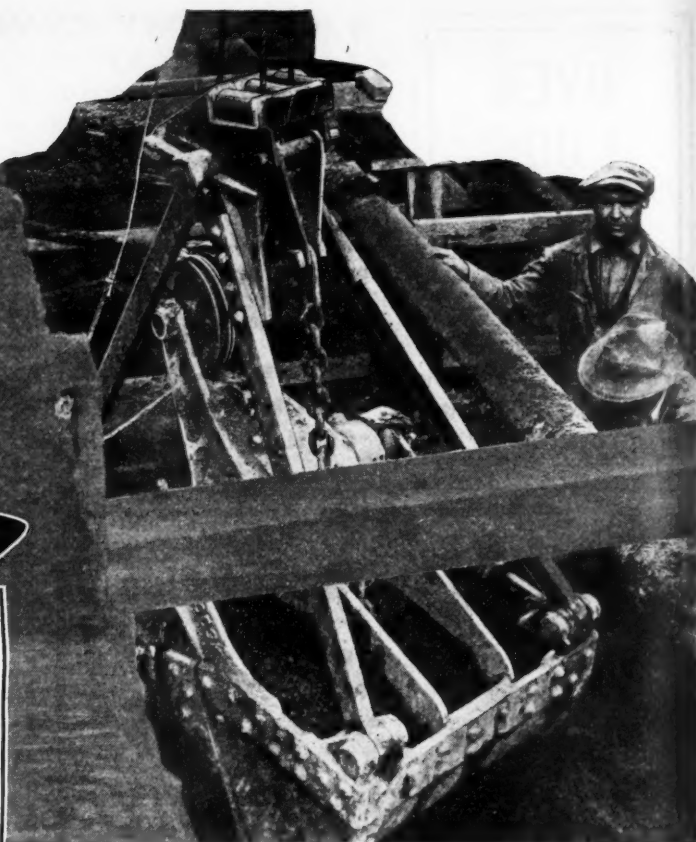
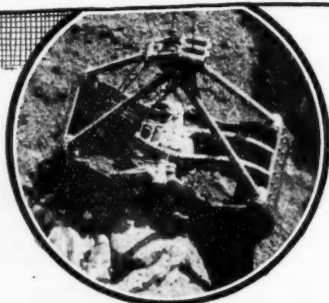
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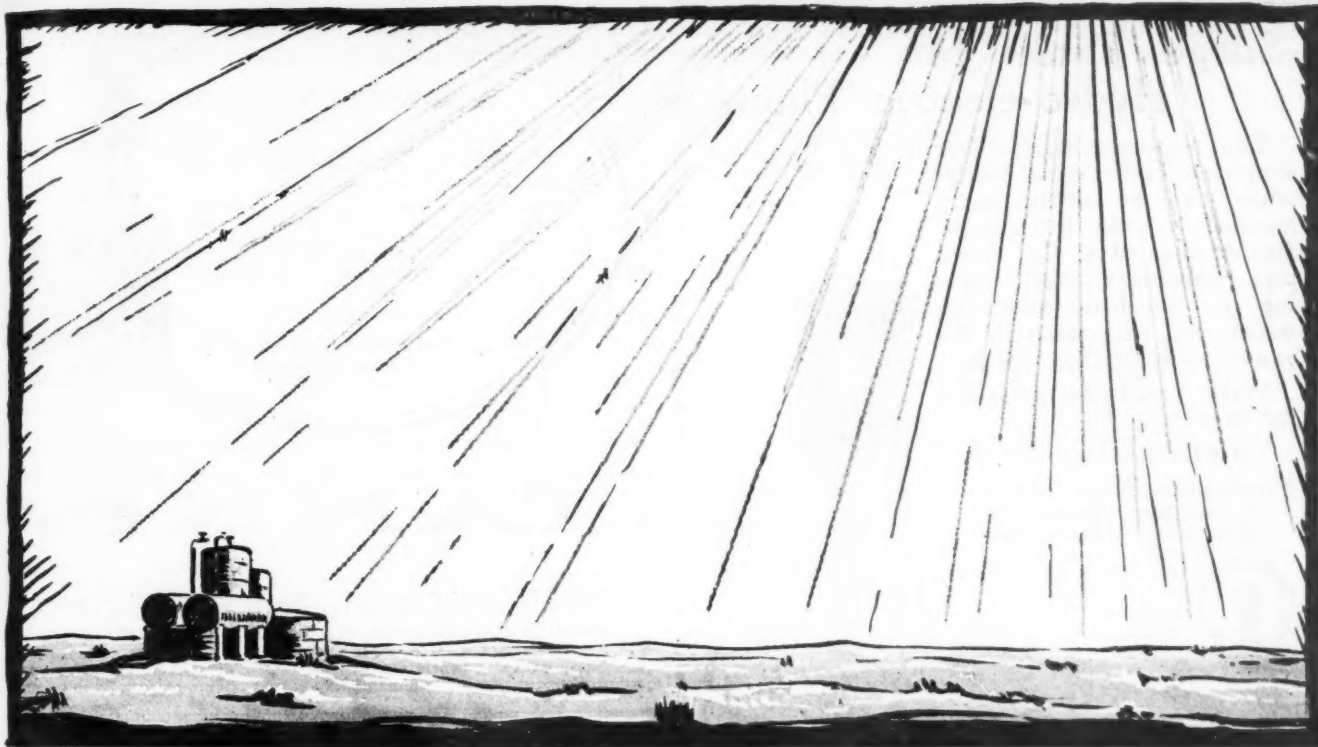
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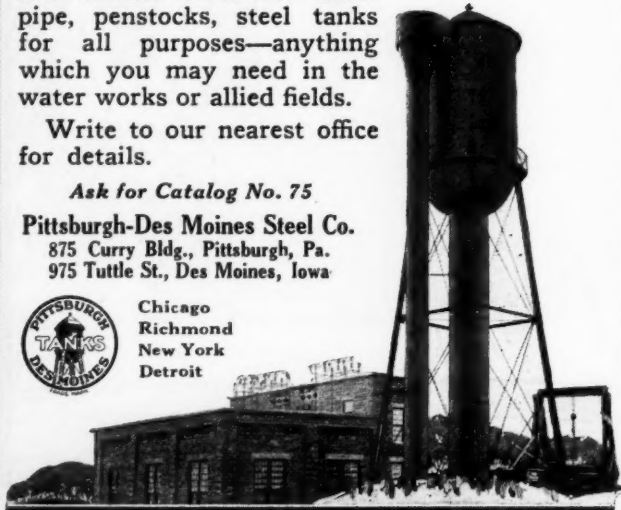
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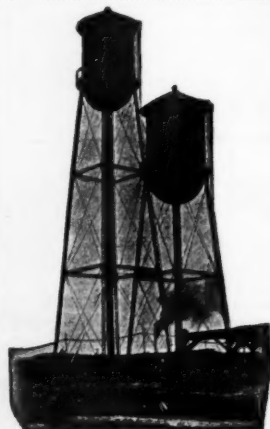


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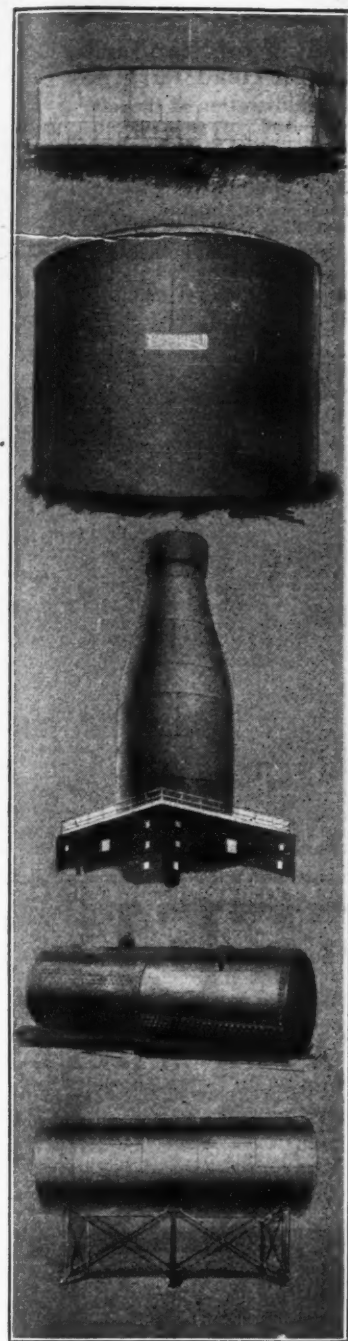
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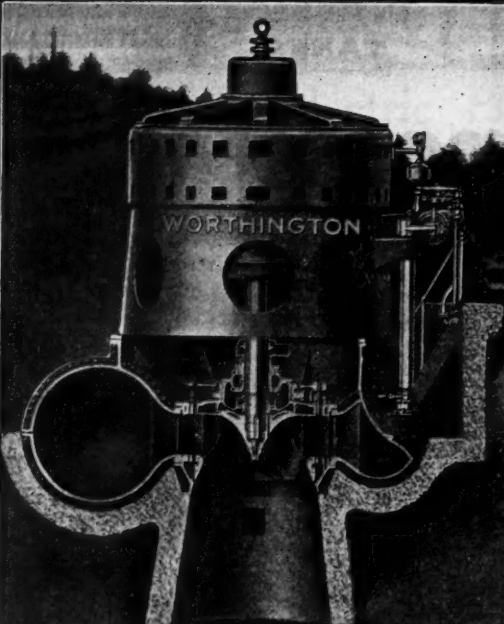
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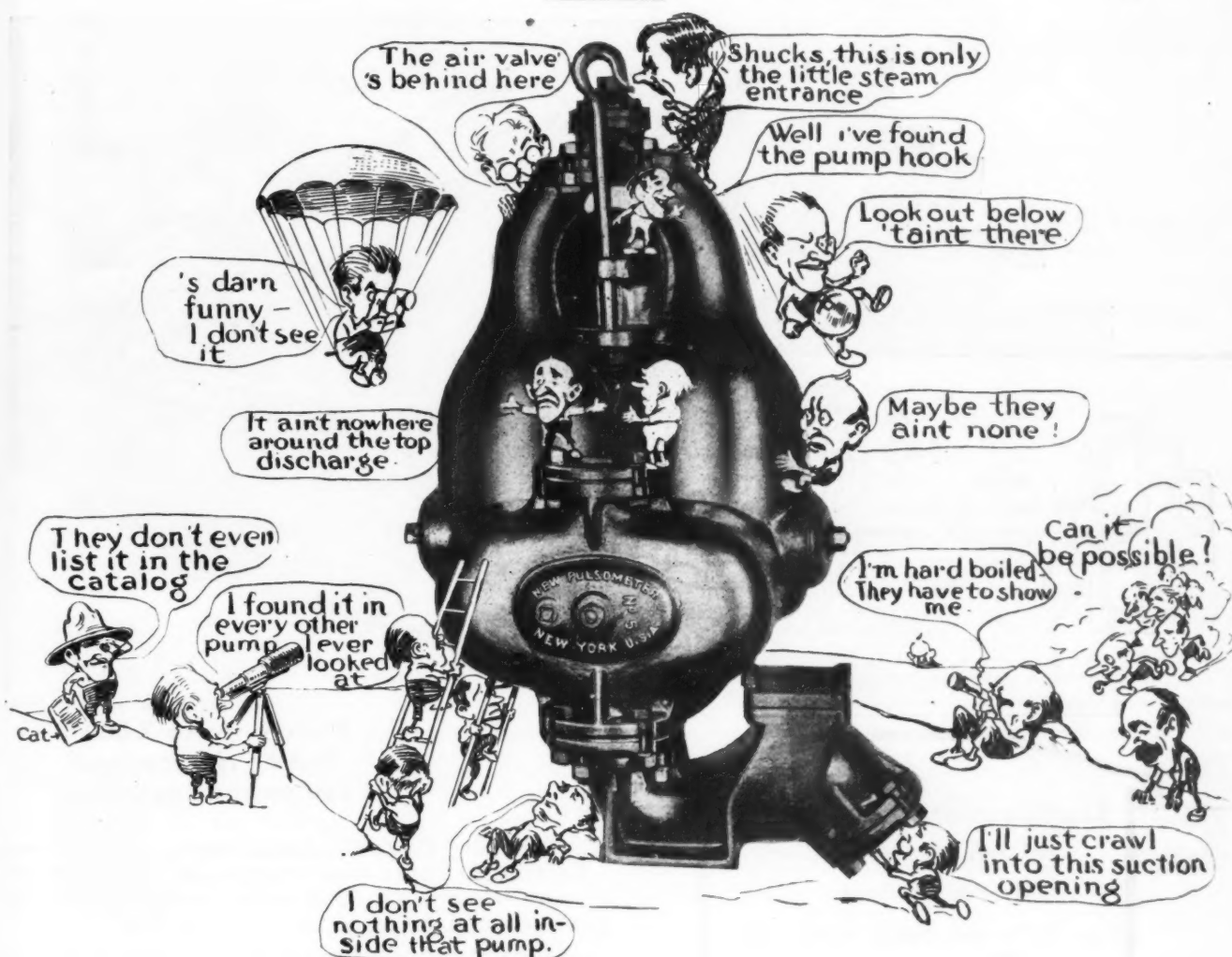
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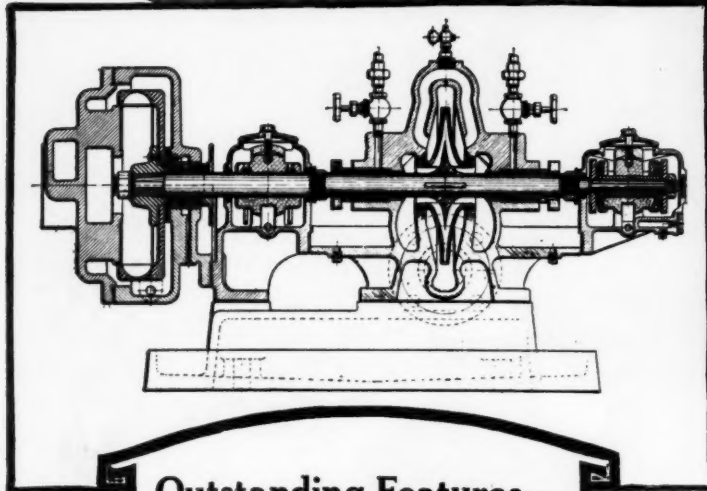
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For Sale, Rent, or Lease

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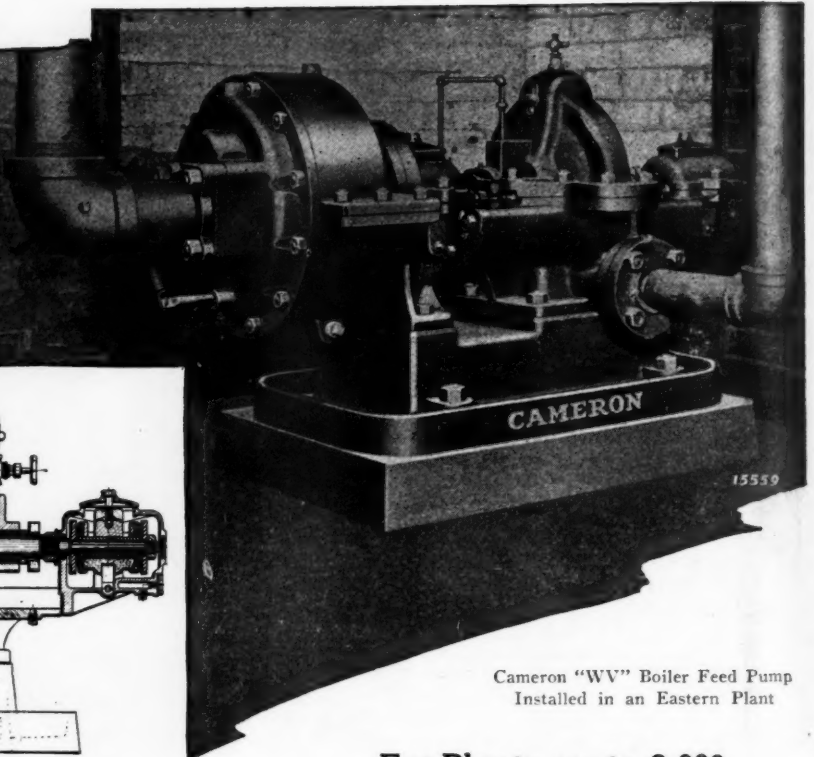
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**For Plants up to 2,000
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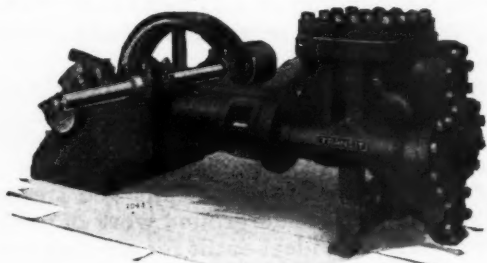


Fig. 1044
3½x12"

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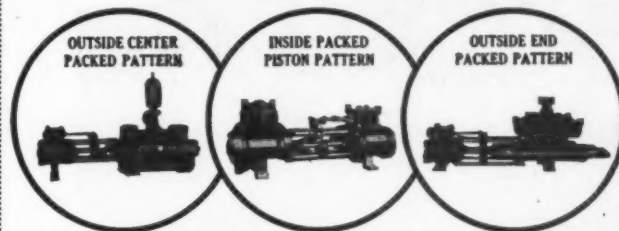
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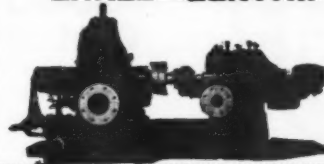
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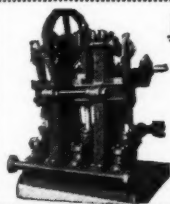
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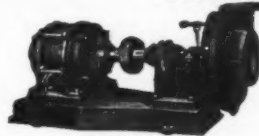


Fig. 261

SINGLE SUCTION WATER
PUMP

BELT, MOTOR AND ENGINE DRIVE

ERIE PUMP AND ENGINE WORKS

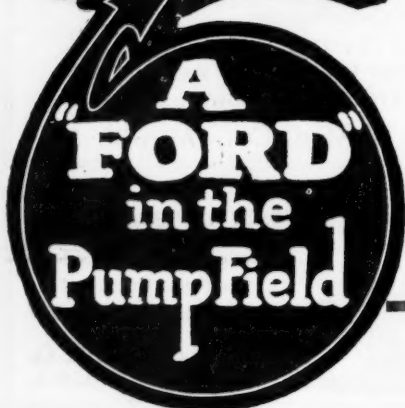
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Fig. 239

ENGINE DRIVEN
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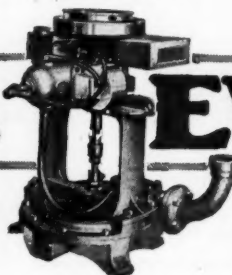
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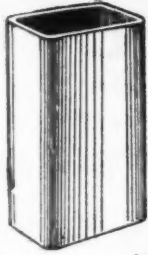
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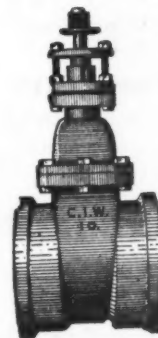
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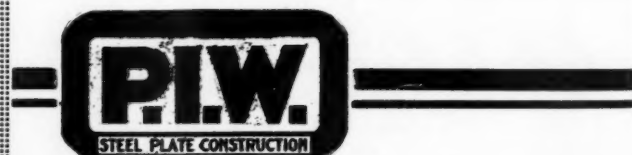
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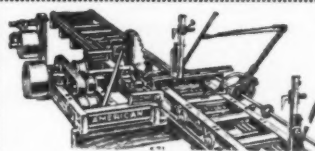
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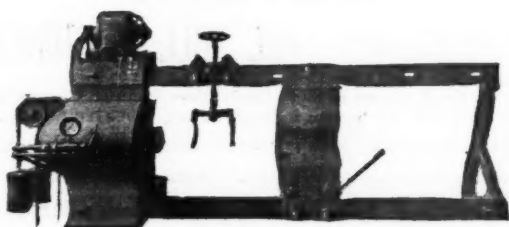
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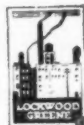
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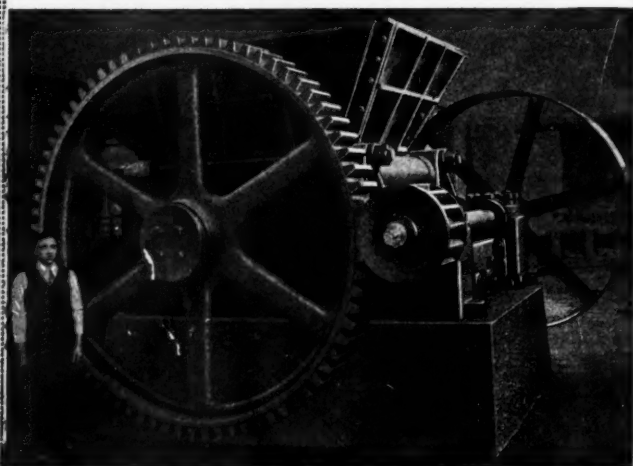
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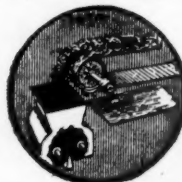
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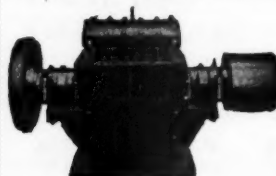
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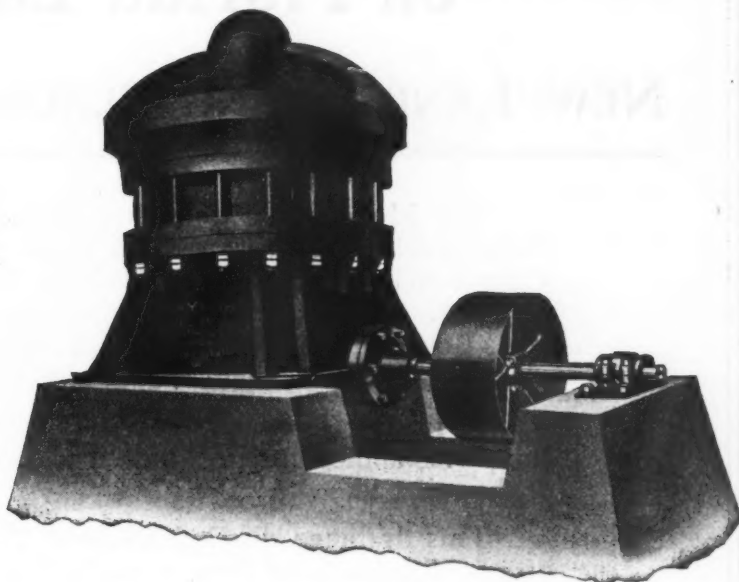
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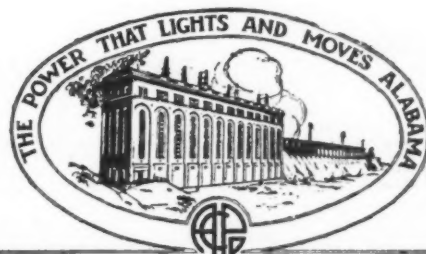
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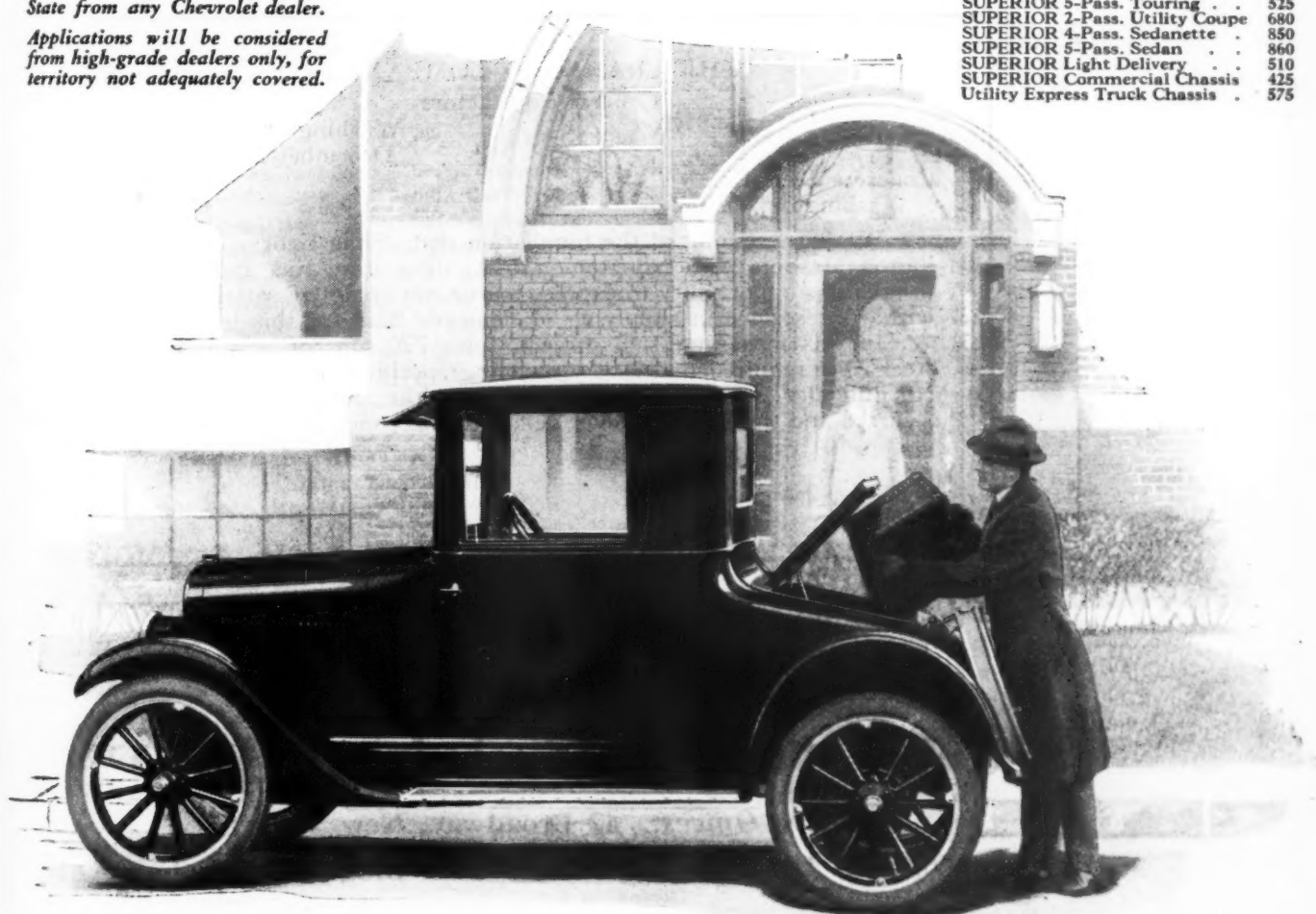
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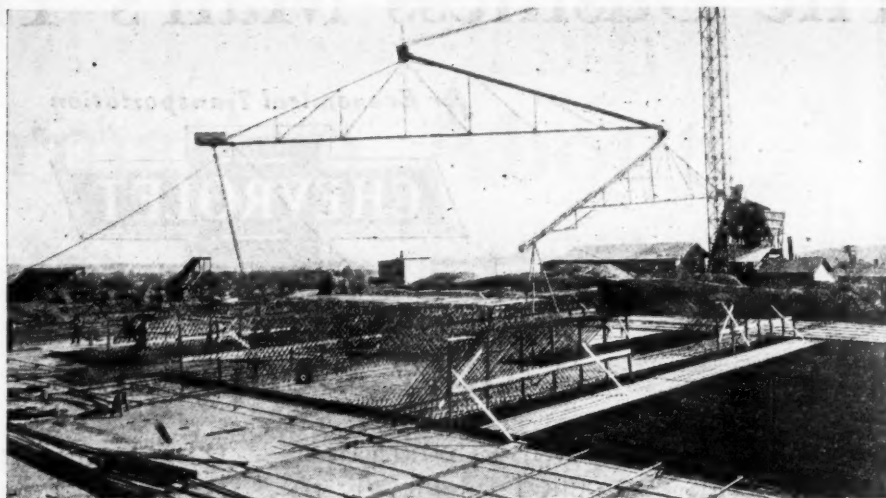
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Manufacturers Record

Exponent of America

JULY 19, 1923

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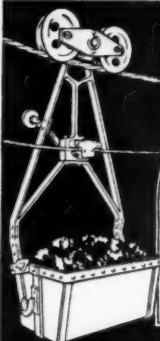
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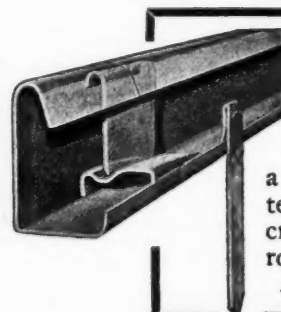
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TWO BIG BIRMINGHAM PLANTS.

THE extent and character of various phases of Southern industrial development are indicated in the two illustrated articles in this week's issue covering the steel mill and the car works foundry built by the Tennessee Coal, Iron & Railroad Co., a subsidiary of the United States Steel Corporation. These two great plants as additions to the whole scheme of development of the Tennessee Company typify something of the character of the development work in practically every line of activity throughout the South. The illustrations given show the magnitude of the machinery involved and the type of construction, which is in keeping with the highest class of plant building of the Steel Corporation.

Recently we reported that the Tennessee Company would build at a cost of about \$4,000,000 a five mile elevated railroad with ore handling facilities, in order to ship the ore direct from its mines on Red Mountain to its furnaces. In the construction of this elevated road the company will obviate all the delays incident to handling ore on its existing road which crosses many other lines.

What that company is doing in carrying out its development plans on a scale of immense magnitude shows something of the general progress in other lines of industry throughout the South.

RAILROADS IN THE SOUTH SPENDING FROM \$375,000,000 TO \$400,000,000.

A BRIEF survey of announcements of expenditures made and to be made by the railroads this year reveals the important and highly interesting fact that these aggregate between \$375,000,000 and \$400,000,000 for railroad systems most of which are wholly within the South, and all at least partly so, and consequently handling large volumes of Southern traffic. The following mention in detail of what is being done and to be done is strongly indicative of the confidence which the railroads have in the general business situation, based upon the hope that there will not be any change in the provisions of the Railroad Law, but that they will be permitted thoroughly to test it out in the realm of experience before any attempt to alter it will be made. This will take several years time.

In a recent statement issued to its stockholders in connection with the semi-annual dividend payment, the Atlantic Coast Line reported a total of \$26,000,000 expenditures for improvements and equipment, including \$9,000,000 for cars, \$4,400,000 for locomotives, \$5,900,000 for double tracking and curve and grade reductions, \$1,800,000 for shops and facilities in connection, \$1,300,000 for yards and related facilities and \$1,200,000 for new rails, besides other work.

Especially interesting in this connection is the recent statement made by W. L. Mapother, president of the Louisville & Nashville Railroad, which is controlled by the Atlantic Coast Line, that the L. & N. program plans for the expenditure of a total of \$85,000,000 of which \$45,000,000 will be for enlarged facilities for the transportation of coal. Part of this total it appears is already expended, contracts having been let during the last seven or eight months for \$47,000,000 worth of work including the building of new equipment to cost \$20,000,000.

President N. D. Maher also lately told the stockholders of the Norfolk & Western Railway Co. that the company has purchased over \$28,000,000 worth of motive power and equipment besides spending over \$7,000,000 for improvement of facilities at terminals as well as along the road, some of this latter work being still in process of completion.

The Chesapeake & Ohio Railway has ordered over \$16,000,000 worth of new equipment and also has on hand about \$4,000,000 of terminal work.

The Virginian Railway has let a contract to electrify 213

To be of use in the world is the only way to be happy.

—Hans Christian Andersen.

miles of track at a cost of \$15,000,000, for accelerating the movement of its heavy coal trains.

About \$30,000,000 of new equipment has been ordered by the Baltimore & Ohio Railroad, and it has many other improvements under way, including the Baltimore elevator to cost about \$5,000,000.

The Pennsylvania Railroad ordered \$57,000,000 of new equipment to be placed in service this year, to say nothing of very many more millions included in its budget for 1923.

Announcement has also been made by the Illinois Central Railroad of the purchase of over \$23,000,000 of new equipment and in addition to this the company will spend on its lines in the South \$5,000,000 or more for double tracking, installation of signals and general improvement of facilities.

The Kansas City Southern Railroad's program for 1923 as announced officially provides for \$2,500,000 worth of new cars and engines of which total about \$1,000,000 will be for the motive power, besides about \$1,500,000 for additions and improvements to the company's other facilities.

The Central of Georgia Railway, controlled by the Illinois Central, will spend over \$6,300,000 during 1923 of which more than one-half will be for necessary new equipment.

The St. Louis-San Francisco Railroad has spent \$12,000,000 for new equipment, betterments and for rebuilding of equipment.

About \$5,000,000 of new equipment including both cars and locomotives was purchased by the Seaboard Air Line for delivery this summer and fall, this being in addition to heavy expenditures previously made by this system to care for increased traffic.

Over \$2,100,000 is being expended this year for improvements, not including equipment, by the Florida East Coast Railway. The equipment purchases of this road amount to more than \$2,500,000, making a total of between \$4,500,000 and \$5,000,000.

The Southern Railway has ordered \$17,000,000 of new equipment to be built this year in addition to \$13,000,000 spent last year for equipment and improvements. Nearly all of the cars and engines now on order will be built in the South.

Southern Pacific System announced the purchase of \$7,500,000 worth of locomotives and a contract to extend its line in Mexico at a cost of approximately \$10,000,000.

The International & Great Northern Railroad has announced improvement plans which will cost \$3,500,000 to fulfill.

The figures given in the foregoing statement indicate what some of the railroads of the South are doing with a view to providing increased transportation facilities. Similar activities are in evidence on the part of the railroads of the entire country. Under these conditions the railroads deserve the heartiest support of every man and woman in this country who wants to see our transportation facilities bettered. The time has long since passed for berating the railroads for the mistakes of olden days. The time has now come when all the people should heartily unite in seeking to build up our railroads in order that through enlarged facilities they may

provide better transportation conditions than we have had since our unfortunate experience in the management of our railroads by the Federal Government.

The railroads are at work doing their utmost to better conditions; here and there they will make mistakes, for no human operations are infallible; but the work which they are now doing is indicative of the broadness of the views of the present railroad managers looking to providing transportation facilities in keeping with the growth of the country. Let the country now stand by the railroads and help to put them on their feet financially, with a backing which will enable them to largely expand their track, their rolling stock, and their terminal facilities.

WORSHIPPING STATISTICS AND CYCLES.

SOMEWHERE we have seen the statement with which a European authority once expressed the hope that the Almighty might save any nation that lived on or lived by statistics. In this country we have gone wild on statistics, and equally as wild on the fetish of business cycles. The country is flooded with the views of men who pose as great authorities and great statisticians, pointing out by their charts of cycles and statistics this, that and the other, most of which never happens. If once in a while these prognosticators prophecy aright they use that fact as a basis for building up for themselves a great reputation as seers and prophets of business.

The average business man who has intelligence enough to conduct a business of any importance is generally in a better position to foretell business conditions than are many of these self-styled prognosticators or statisticians or business cycle advocates. The country is surfeited from universities, from government sources and from private concerns with statistics. We breakfast on statistics, we lunch on statistics, we dine on statistics and the nation has statistical indigestion and its brain is fagged and beclouded by statistics.

The writer of this has for more than forty-five years studied statistics, local statistics, sectional, national and world statistics, and he recognizes that there are many statistics of much value when rightly interpreted. But we believe that at least one-half of all statistics put out at the present time to influence business men one way or the other should go to the scrap heap of useless figures. Every department of the government seems to have gone crazy over statistical work. Every department is apparently afraid that some other department will beat it in the race, so day after day the mails are loaded down with the reports of this, that and the other from government sources, bearing on everything on earth. About nine-tenths of this information is practically worthless. One-tenth of it would cover everything that the country needs to know about statistics. Half the newspapers in the country swallow with agility all this so-called statistical stuff that is unloaded upon them by those who make their living through selling publicity of this kind.

Statistics rightly handled are useful if rightly understood. But about nine-tenths of all the stuff that is published under the head of statistics proves the old threadbare statement that while figures do not lie, liars do figure. Some of them do it unintentionally.

HUGO STINNES REPORTED AS TRYING TO INVEST IN SOUTH.

WHILE in the office of the MANUFACTURERS RECORD a few days ago, Mr. Clement S. Ucker, Director of Development of the Seaboard Air Line Company incidentally mentioned the fact that a New York business man reported to be representing Mr. Hugo Stinnes of Germany had asked him to undertake to block up about 1,000,000 acres of land on the Seaboard Air Line in Southern Florida as an investment proposition.

Mr. Ucker said the matter was not presented to him in any confidential way, therefore he had no objection to the publication of this inquiry, but the impression made upon his mind was that Stinnes had accumulated a vast fortune and was scattering it out over the world so to speak and at times he was rather hard put to find a place to invest his surplus. After thinking over the matter, Mr. Ucker decided that he would not take any part whatever in carrying out such a scheme and so advised the New York people. His reasons for this position were that he was not in sympathy with the proposition from patriotic reasons as well as from business reasons and the business reason was that he did not want to see Hugo Stinnes or any other foreign capitalist get control of a million acres of land in the South where he could hold it indefinitely without development, merely for the increment that would come to it in future years.

Whether the New York people were directly representing Mr. Stinnes in this inquiry Mr. Ucker did not know but they claimed to be doing so, and as Mr. Stinnes' private secretary has a brother living in New York the circumstantial evidence seemed to be in favor of the substantial character of the inquiry.

The MANUFACTURERS RECORD is very glad that Mr. Ucker took the position that he did. No one should encourage Hugo Stinnes or any other foreign capitalist, but especially Hugo Stinnes and his crowd, in getting control of a vast body of land in the South.

SOUTHERN COTTON MILL OPERATIVES.

THE cotton mill operatives of the South are composed almost exclusively of the native white people, the Anglo-Saxons, many of whom have come out of the mountain regions of this section. They are a sturdy, self respecting class of people who have regarded the cotton mill industry as peculiarly their field of employment.

Prior to the development of cotton manufacturing in the South, most of these people had but little opportunity for employment. Even prior to the Civil War, a Governor of South Carolina pleading with the business men of that state to establish cotton mills in order to create employment said there were 60,000 white people in South Carolina always on the verge of starvation because of the lack of employment. The cotton mills as they have been increasing in number in the last twenty-five years have furnished employment to this class of people and these operatives are determined that no other class of operatives shall come into Southern mills.

The view which is very generally held by them was emphatically if somewhat profanely expressed once when some agitators from New England went into a Southern mill village and began to stir up trouble. The operatives in that mill posted notices throughout the mill village, so it is said, reading as follows:

"This is an American mill village. We love our country and our flag. Those who do not like our country and our flag should return to their own country. If they have no country of their own, then they can go to—hell."

It did not take very long for these agitators to conclude that that was not a very healthy location in which to make

a permanent sojourn and while New England mill men are building mills in the South largely to escape the labor conditions in New England and secure the advantages possessed by the Southern cotton manufacturers, it will be well for them to remember the advice given by those cotton mill operatives and not undertake to bring foreign operatives into Southern cotton mills.

THE OTHER SIDE OF INCOME TAX ON EARNED AND UNEARNED INCOMES.

The Matthew Addy Company

Cincinnati, O., July 6

Editor Manufacturers Record:

I always read the MANUFACTURERS RECORD with appreciation. It is a great paper—a paper that realizes that morals and business have an immediate and direct connection. As a rule I agree with you unreservedly—so I hesitate to disagree with you, but I am not sure that your editorial concerning "Income Tax on Earned and Unearned Incomes" takes the proper view.

Now here is a man who has worked hard all his life—he has been frugal and saving and at the age of sixty-five he retires to live upon his earnings. Why should his income from the hard-earned savings of a long and arduous career be in any way different from the income of a young man in the heyday of his youth and earning ability? Yet you seem to cast a reflection on the unearned income and nearly all the tax experts and economists talk about unearned incomes as if they were fair game for the tax gatherer. Of course, there are a few unearned incomes that are not in this class and yet ninety-nine out of every one hundred unearned incomes represent to their recipients years of toil and often of closest economy.

My idea is that most unearned incomes are sacred. You will find when you look around on the unearned incomes in your circle that nine-tenths of them go to elderly men or elderly women, or to dependent children.

If I am correct in this it follows logically that a more burdensome tax on this kind of an income than on an income of a man whose earning powers are at the maximum would be absolutely immoral.

JAMES A. GREEN, President.

We are very glad to publish the views of Mr. Green for whose judgment we have great respect, though we cannot in this case unreservedly accept his view of this matter. The income tax on a man who in wearing out his life, which is his capital, while actively in business, is a tax on his ability to save anything for the future. Moreover, a very large proportion of what has been called unearned incomes or incomes from investments has come by inheritance. In some cases taxation would be burdensome if the tax on such were differentiated from the tax on earnings of a man actively at work. But in the long run we believe that greater good would come to the country from taxing unearned incomes somewhat more heavily than those which are being earned.

Let us say, for instance, that a man or woman has an income of \$10,000 from investments, whether inherited or accumulated in former years of active work. When that money was being accumulated there was no income tax, and in the ordinary course of events that income cannot be taxed, by reason of probable death, for as great a length of time as the tax upon the income of men who are earning their present incomes by wearing out their capital, the capital being their own lives.

The man who is today paying an income tax on his earnings will likely continue to pay that tax, to some extent at least, for the balance of his life; and his life on the average will be very much longer than that of those who have retired either on inherited wealth or the wealth which they accumulated when there was no income tax.

The question is an interesting one, worthy of discussion from all angles. Mr. Green has presented an interesting viewpoint. Possibly others would take an entirely different view from his.

HENRY M. LELAND ON LAW ENFORCEMENT AS THE NATION'S SAFEGUARD.

MR. HENRY M. LELAND, one of the great creators of the automobile industry, often referred to as that "Grand Old Man," one of the nation's leaders in industry, writing to the editor of the MANUFACTURERS RECORD enclosed a letter which he was sending to Dr. H. H. Russell in regard to the enforcement of the Prohibition law. In his personal letter Mr. Leland said:

"I am forced to feel that the most effective way to combat this widespread and so-called wet propaganda is, as suggested in my letter, to send the arguments against it which appeal to us and are convincing, to congressmen, our law makers, and others, and thus use to the full every avenue of work, because the situation looks serious to me. I trust to bespeak your sympathy and helpful co-operation in this great crisis and on this most important problem."

Mr. Leland has long been an earnest advocate of the rigid enforcement of our Prohibition law. In the letter to Dr. Russell, to which he refers, he wrote as follows:

"I am taking the liberty of enclosing some sheets taken from the Ladies Home Journal of July, 1923. It is an article on the 'Twelve Tests of Character' by Dr. Harry Emerson Fosdick. This is a timely article since it seeks to counteract the loose thinking and lawlessness of the present crisis. That portion dealing with the Eighteenth Amendment is particularly pertinent.

"The thought which I wish to impress is that if you, or some official of the Anti-Saloon League, would get permission from the Ladies' Home Journal to publish this in a four-leaf folder (for free distribution) which could be carried in the coat pocket, and would then mail it to every member of Congress, every official in Washington, every member of all our State Legislatures, officials of our state governments, and city governments, etc., etc., with a suitable preface setting forth the importance of the truths here so forcefully presented, it might help in reducing the number of immature and dangerous thinkers and stem the tide of law breaking which, if not stopped, will ultimately overwhelm and destroy our beloved country. Also it would suggest to citizens that the Almighty places some responsibility on us because of the great heritage he has given the people of this country.

"We have been shocked when we have been invited to attend some function to discuss matters of vital importance to the community, and which should claim the best thought and serious attention of all patriotic citizens, to find people there who seemed to take pride in showing us that they could defy the Eighteenth Amendment and the laws of our land, and exercise what they were pleased to call their personal liberty.

"Are not these people putting appetite above character, and the soul-destroying beverages above the Constitutional law of the land? Such action seems to me but little removed from playing with treason to the fundamentals upon which our great free institutions rest.

"We well remember the open saloon with its damnable appendages freely patronized by our foreign citizens and our damaged Americans, which together with the acquired habit for intoxicating liquors was the most destructive influence to the welfare and peace of the American home. Indeed it was a positive curse to our children, our families, and the welfare of our entire country. Should the open saloon and the drink habit be re-established it will be destructive to our very civilization. *This must not be.* We all remember when the saloons were wide open and beer flowed over the bar, and whiskey flowed, as it always has and will continue to flow, from beneath the bar.

"Now to say that the nation has not the right to stop the destruction and waste caused by the gilded saloon, is to say that it has not the right to control and stop the deadly contagious diseases which, uncontrolled, would sweep the human race into oblivion. However, in blissful ignorance, or unmindful of all this, the so-called wet organization and its interests are putting up money by the millions to work up propaganda to corrupt those selected to enforce the law; and by every means, fair or foul, to once again establish the saloon and send it forth on its nation-wide, damnable mission to wreck and destroy the homes, the families, the children, the character, yea, the very souls of that great mass of the poorer people who formerly spent their substance there when the saloon was allowed to wreck without let or hindrance before their wrecking business was stopped by the Eighteenth Amendment. The man who doesn't know that a law which permits the free sale of 2 per cent or 5 per cent

beer would bring back the saloon with all its destructive activities, would not be able to distinguish the difference between a prairie-dog and an elephant.

"For the most part the present breakers of the law are boon companions of the criminal bootleggers. They are not the laborers, the ignorant, and the poor as formerly. It is a shame to have to say it, but it is the truth—these coadjutors of the bootleggers are now often men of responsibility, men of means and prestige. However much we must regret it, the present activities of these chums of the bootleggers force us, in justice to all, to tar the bootlegger and his patron with the same stick.

"When will our people learn that 'Obedience to the Law is the Greatest Liberty.' It will be fitting for us to remember what Samuel the prophet told King Saul on one occasion when, to gratify his pride and ambition he disobeyed God's command and saved a portion of the flocks for sacrifice. On this occasion Samuel said to Saul, 'Obedience is better than sacrifice.'

"The present generation should learn this lesson, or the people will certainly suffer the consequences.

"I trust you will find time to read this important article by Dr. Fosdick, and that in some way his forceful thoughts can be gotten across to our lawmakers, and the men who mold public opinion."

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HARDING GETTING AHEAD.

[From "Early Morning Observations," by George M. Bailey, in the Houston Post]

"Not long ago the President bought a farm, and now it is announced that he has sold his newspaper, the Marion Star. It looks as if the President is fated to realize the one sovereign hope and ambition of every newspaper man, viz., to spend life's evening on the farm. We have the same yearning, but it is not likely to be realized."

Ditto, Ditto.

INDICATIONS OF SMALLER WHEAT, CORN AND POTATO CROPS.

ACCORDING to the July forecast of the Agricultural Department, wheat, corn and potato yields this year will run less than the 1922 production, and smaller than the five-year average of 1917-1921.

Based on an area of 58,253,000 acres and conditions July 1, indications are that the country will produce 821,000,000 bushels of wheat compared with 862,000,000 bushels in 1922 and 835,000,000 bushels for the five-year average of 1917-1921.

The July forecast for corn on an acreage of 103,112,000, shows an indicated production of 2,877,000,000 bushels which is 14,900,000 less than last year's output and 54,000,000 bushels less than the five-year average production of 1917-1921. Production of white potatoes is estimated at 383,000,000 bushels compared with 451,000,000 bushels in 1922 and 388,000,000 bushels for the five-years of 1917-1921.

ACREAGE AND FORECAST OF PRINCIPAL CROPS.

Crop	Acreage 1923	Production	
		July Forecast 1923	Final 1922
Wheat (bu.)	58,253,000	821,000,000	862,000,000
Corn (bu.)	103,112,000	2,877,000,000	2,891,000,000
Oats (bu.)	40,768,000	1,284,000,000	1,201,000,000
Barley (bu.)	7,980,000	198,000,000	186,000,000
Rye (bu.)	5,234,000	68,700,000	95,500,000
White Potatoes (bu.)	3,892,000	382,000,000	451,000,000
Sweet Potatoes (bu.)	1,007,000	93,700,000	110,000,000
Tobacco (lbs.)	1,762,000	1,425,000,000	1,325,000,000
Rice (bu.)	883,000	33,100,000	42,000,000
Hay, all (tons)	76,031,000	99,000,000	113,000,000
Cotton (bales)	38,287,000	11,400,000	9,800,000
Apples (bu.)		189,000,000	201,000,000
Peaches (bu.)		48,400,000	56,700,000

While these are the official forecasts, it is absurd to make any estimates at the present time especially as to corn and cotton. Any estimate as to those crops is merely a wild and foolish gambling guess.

"NEGLECTING OURSELVES."

"WE folks of the South are neglecting ourselves" is the way Dr. Jos. A. Thomas of Valdosta, Ga., expresses it in a letter to the MANUFACTURERS RECORD, in the course of which he says:

"As one who enjoys your editorials in each of your editions, I wish others in my profession could or would have this opportunity. I feel as though we folks of the South are neglecting ourselves when we look around us and try to discuss conditions which we really don't know much about; and yet I find worlds of valuable information in the MANUFACTURERS RECORD that all classes should know. I run across so many 'old moss backs' until I am enclosing my check for two copies of the Blue Book, so that I can cite 'em as well as myself on Southern progress."

It is true that there are a great many "moss backs" who do not move rapidly enough to rub the moss off their backs. Their slow movements retard the progress of their communities. Many a town has been greatly blessed by the death of some of these "moss backs" as harsh as this may sound. The man who retards the progress of his community through too much conservatism, too much holding back when others would go forward, too much pessimism when optimism should prevail, is a handicap to everybody in his community. His influence is many times greater than it should be, and it is altogether an adverse influence which drives many a young man away from home, where his work is badly needed, into some other community, hoping to find larger opportunities.

Perhaps Dr. Thomas might find some medical remedy which if properly used would take the heavy moss off the backs of these ultra-conservative "moss backs," and give the spirit of the town freer opportunity.

A few days ago two men of vision and optimism from a town in the South, where optimism should rule the day, visited this office. Their town is hampered by the pessimists and the men of narrow vision who, because the boll weevil

has injured the cotton crop for several years, think their section has slipped back rather than gone forward. There is an old saying that "a dead fish can float down stream but it takes a live fish to breast a heavy current." It is only the live fish that is worth having. The dead fish which floats down stream adds nothing to the world's comfort or food.

Every community has its "dead fish." They are as useless as the fish which the old darkey described. While passing through a fish market he constantly put his ear down close to the piles of fish. A fish-monger becoming irritated finally asked him: "What are you doing, old man?" The old darkey said: "Boss, I was listening to what the fish had to say." "What the fish had to say!" was the answer; "Fish can't talk." "Yes sir, they can," said the old man. "Well, what do those fish say to you?" was the question; and the answer was "These fish said, 'We have been a long time away from home.'"

Fish in that condition are not fit for food. They are a stench in the nostrils of the people, and the only good that can come from them is to cover them up for the fertilization of the ground.

There are a lot of "moss backs" in every community who are just as undesirable as are the fish that have been "a long time from home." Generally they know nothing, they learn nothing, they want nothing except to be let alone, or to be a dead weight on the community life. And yet some of them by virtue of previous position, or business, have a certain power of wealth or influence injurious instead of being helpful to the whole community.

There are hundreds of thousands of people in the South who, in Dr. Thomas' language, are "old moss backs." They do not want the community to grow unless it grows their way. They do not want improvements to be made if these improvements add to their taxes. They are perfectly willing to live in tumble-down homes, with unpainted fences, because they have always lived so in the past, and they do not see why modern improvements are essential to bettering the conditions of living. Some of them, unfortunately, have money, and occasionally they own the best houses in town; but they are still "moss backs," unwilling to help others to get a chance to make money as they have made it, and to be factors in the life of the country.

There are hundreds of thousands of people who would cease to be "moss backs" if they came in touch with the living, virile, energizing spirit which is making life in the thriving towns of the South. If they could catch the spirit of those who are building cotton mills, and iron and steel works; building highways, and opening up new sources of employment; draining swamp lands, and doing a thousand and one other things which are adding to the comfort and happiness of its people, they would get a new vision of what can be done.

No community which has not vision and enterprise enough to overcome temporary adverse conditions has any right to live. If the boll weevil kills cotton growing in one place, something else could be done in that community which would offset that condition. Other things could be raised on the farms, and other employment found for the people. He who sits down and cries because he has had one hard blow has no right to expect success. There are few men in the world who have achieved anything who have not had to face innumerable difficulties. They have made stepping-stones out of every adverse condition in order to rise to higher fields of work or success.

In every community, the live, energetic people ought to unite and however long the fight may be keep steadily at the job of going ahead regardless of "moss backs" or of the people who neglect their opportunities.

The man who becomes discouraged and gives up because

he has been financially knocked down has not in him the making of a real man. The community which permits itself to go to pieces and lets young people be driven elsewhere because it lacks the spirit of creative work, does not deserve to succeed.

SOME DRINKER.

MR. FRANK GOULD, Vice-President of the MANUFACTURERS RECORD, in a personal letter giving some of his experiences in London and on shipboard, says:

"The cabin steward who waited on me on the way over said: 'I drink nine pints of a night when ashore.' He also added, apparently without seeing the connection, 'I am sick every morning, and roars like a bullock, sir.' He also added that if he wanted to give up his job he could get, because he has four or five children, as much as two pounds a week as unemployment dole."

THE EFFORT TO UNIONIZE STEEL WORKERS.

IT is being widely announced that the American Federation of Labor proposes to make another big effort to unionize the men in the steel industry of the country.

It is to be hoped that the steel operators will fight this movement as vigorously and as successfully as in the past. The overwhelming domination of radical unionism wherever it can control the situation menaces American liberty.

The men who stand for the Open Shop, regardless of the inconvenience and denunciation to which they submit themselves are the men who are standing for American liberty.

The men who meekly yield to union domination are the men who prefer peace at any price regardless of consequences of the future.

The MANUFACTURERS RECORD has no objection to the organization of labor men; it believes in labor men getting together and working together when they are organized on an honest, law-abiding, liberty-loving basis. But when under that organization they seek to dominate every man who prefers independence to unionism, they are committing a crime against individual and national liberty.

There is a spirit abroad in this land today of subservience to this radical labor unionism which bodes ill for the future. The Soviet influences of Russia are seeking to Bolshevize this country and he is indeed a fool or blind to the facts who does not realize what is going on. We cannot afford to wait until the hosts of unionism have throttled independence any more than the men who led this country into independence one hundred and forty-seven years ago could afford to wait too long and thus endanger the possibility of their ever securing national liberty.

England is being well nigh destroyed by unionism run rampant. To this radical unionism is due much of the distress and unemployment of England, and many of the other evils which are endangering the existence of that government. The same forces of evil are at work in this country. A true statement of what should be the position of every intelligent American was made by Dr. G. W. Dyer, Professor of Political Economy in Vanderbilt University, Nashville, in a recent address before the Employers Association of Fort Wayne, Ind., in the course of which he said:

"Many people, including many employers themselves, believe that employers control wages, but they don't. The law of demand and supply fixes wages and nothing else. Wages should be based on the principle that the laborer should be paid what his labor is worth. He will find his level."

"The theory that wealth is made by the hands is a fallacy. It takes brains to make wealth, not hands, and each should be paid in accordance with the value of the service rendered."

"The principle that a man should be paid according to his

needs rather than according to the labor he performs is undermining American manhood and is breaking down the initiative for men to work."

"An industry should be free to employ whom it pleases, when it pleases, at wages mutually satisfactory to all parties concerned."

"All persons should be guaranteed the fullest freedom to work where they please, when they please and at wages satisfactory to them without the interferences from anyone whatsoever."

"A man would be a fool to work very hard when he is assured a certain wage whether he works or not. That very thing is happening in this country today and unless there is a change it will result in socialism and the ruination of American industry."

NO GROUNDS YET FOR BEING "CHESTY."

"Mr. Edmonds, editor of the MANUFACTURERS RECORD, must feel quite 'chesty' over the manner in which his Blue Book of Southern Progress is being received by the business world. Manufacturing and industrial firms all over the country have invested in hundreds of copies of the book, which they are sending out with their compliments to people in all parts of the world. The National Surety Company, of New York, with an enterprising agency at Greensboro, is one of the investors in the book. Every day or so The Observer receives a copy from some firm indicating its pleasure at placing so valuable a reference work at our service. And more than that, the book and its authorities are being quoted in widely technical and trade papers. The story by Mr. Robert F. Moore, detailing 50 years' progress of life insurance in the South, as an example, is being exploited in The Economic World."—Charlotte, N. C. Observer.

The editor of the MANUFACTURERS RECORD has no "chesty" feelings whatever in regard to the sales of the Blue Book. Indeed, he is more inclined to feel a little despondent over the fact that out of the 110,000,000 people in this country only about 40,000 of them so far have the Blue Book of Southern Progress; whereas the sales ought to have been at least ten times that number for the good of the South and of the country.

The Blue Book has been widely quoted all over this country and abroad. In this way millions have read some of the facts and figures which it has given about the South, and thus an immense amount of good has been accomplished. But not until all the thinking, intelligent people of the South order it for themselves and study its facts and figures will it have accomplished its intended purpose so far as the Southern people are concerned; and not until millions of people in other sections have through the reading of it learned of the South's past, present and future will it have attained unto the full fruition of its potentialities for the good of the South.

We are still standing ready with the aid of the Charlotte Observer and hundreds of other papers that have been most enthusiastic in their hearty commendation, waiting to receive that continued flow of subscriptions which we believe the merits of the publication justify; and we are judging its merits by the editorials and letters of commendation which come piling in on us every day.

The price of the Blue Book of Southern Progress was put at a nominal figure for the express purpose of enabling everybody who wanted to buy a copy to do so at a minimum cost. If the overhead expenses or the editorial work necessary in compiling the facts and figures, and getting the manuscript into shape, were added to the cost of printing, etc., the actual cost to this office would be much above the selling price. We have made the selling price low by not charging against the publication a single dollar for the compilation of the matter and the handling of all the details connected with issuing it. Only in this way is it possible to sell the Blue Book at the prices quoted.

DEHYDRATION MAY PLAY IMPORTANT PART IN WORLD'S FUTURE FOOD SUPPLY.

WE are a nation of "canned goods" eaters. Under modern scientific methods of canning and distribution there has been developed a greater variety of and more wholesome food than the world ever enjoyed before. This canned food when ready to be served in many instances can with difficulty be distinguished from the fresh product. But the "canned" flavor still lingers nevertheless and it is not quite like the real fresh fruit or vegetable.

The cost of materials and packing of canned goods, increased freight and storage charges, have led many toward research in other ways of preserving food. One method that is commanding attention is dehydration. Dehydration, which is merely another way of saying scientific drying, or removal of water from products, is now receiving the strongest endorsements of scientists and food experts who have given it a thorough investigation. We are all familiar with the crude drying of fruits and vegetables, but under the modern methods of dehydration great claims have been made for the high quality of the products thus preserved as they are said to be most sanitary and retain to the highest degree their food value and natural flavor, and color.

To turn the public from the use of canned goods to an unfamiliar method of preparing food is a revolutionary thing to do. Dehydrated products require a certain period of soaking in water before they can be cooked. In this they have not the advantage of being ready for practically immediate use as have canned goods. Hotels, restaurants and housewives use canned food instead of fresh products even when these products are in season and plentiful and cheap, because stated plainly, they are in too much of a hurry or too lazy to prepare fresh food products. Consideration also should be given to the fact that as we are fast becoming a nation of city apartment house dwellers with restricted kitchen facilities, housewives have not the room for the preparation and storage of bulky fresh food products. In the case of hotels and restaurants using canned goods it is often a matter of measuring supply to demand for it is much easier to figure the cost of producing meals and easier to prepare individual orders out of the can for diners than it would be for the cook to prepare fresh vegetables. On small orders the question of cost also enters.

However, during these times of high costs of transportation and storage and all that enters into the cost of canning food, dehydrated products are attracting wide attention. The reason for this is evident when it is realized that, for instance, fresh tomatoes are over 94 per cent water, and that ten car loads of fresh tomatoes after dehydration could be hauled in one car. A saving of nine car loads of freight charges on every ten cars shipped is quite an item in these days of high freight rates. The same approximate reduction in weight may be obtained with other vegetables and fruits it is said. In the case of canned goods, the dehydrated product does not take up the space nor weigh as much, for canned goods contain a large quantity of water and the weight of the containers is a large item in transportation cost.

We have nothing against canned goods, but we believe that dehydration offers a scientific and efficient method of preserving, handling and storing food which should receive careful study.

Many believe that in the not distant future dehydrated food will become one of the mainstays of humanity, because of its high quality, low cost of transportation and storage. Its greatest merit perhaps lies in its becoming the saving factor in the solution of the waste food problem of the fruit grower, trucker, and farmer. There are now plans under way for utilizing at their source the excess vegetable and fruit

products which are now practically going to waste, a monetary loss to the producer and a food loss to humanity. Possibly the time will come when every producer of perishable food products will have his own inexpensive equipment or will have available in the community a dehydrating depot or plant where every bit of the surplus fruits and vegetables will be dried under scientific methods and thus saved from loss. The farmer instead of seeing his fruit and vegetables, because of slow sale or inadequate transportation, go to waste and become a total loss may be able to have them dehydrated and thus not only turn a loss into an asset but add to the food supply of the world.

WHY CURRENCY IS TOO SCARCE.

WHILE the use of checks has been expanding rapidly in the last few years and much of our progress is due to this cause, we still are inadequately supplied with currency. New factors have come into existence within the last ten or twelve years, which have materially changed the amount of currency that is locked up.

There are thirteen million automobiles in the United States. Every automobile owner probably carries on an average two or three times as much ready cash in his pocket as he ever carried before he owned an automobile. He does this in order to meet emergencies which may happen on the road. A well posted New York man said to the writer that he didn't believe there was a well-to-do motorist in the country who didn't always carry \$100 stuck away in order to be prepared for an emergency, or a fine, or a broken tire upon the highway. This money, said he, never comes into circulation. It is put away and held merely for a possible emergency. His estimate is probably not too high on the average for rich people, but of course too high for the average automobile user. In the aggregate however the amount of money locked up in the pockets of automobile owners is very great. Its extent has never been taken into consideration in the discussion of currency. It is altogether probable that the well paid mechanics of today are carrying more money in their pockets than ever before.

It is true that more money is being deposited in savings banks than in former years, but this is scarcely equal to the increased income of the people as a whole, and especially of the mechanics. Many of them are carrying well filled pocket books of ready cash.

Large amounts of American money are also hid away from circulation in Europe. Ever since the war and the rapid depreciation of foreign currencies, the American dollar has been in demand. Germans, Austrians and practically every other people in Central Europe have put their American money away, realizing that it is the only thing which is absolutely safe for them. So great has been the hoarding of American money by European that this government is now trying to make an effort to discover approximately the amount thus hid away and taken out of our circulating medium. Cuba is also using our money freely. All of these things necessarily bear to a considerable extent on the prosperity of the country. They have materially affected agricultural conditions. Some months ago there were signs in the retail stores in parts of Montana, "No Checks Accepted Here." This was in part due to many bank failures and in part to the general business conditions which created a desire for actual cash, and to the majority of people actual cash always looks just a little better than a check. There is a psychological effect in the cash which there is not in the check.

These things must be understood by the bankers of the country if they would fully grasp the significance of some of the business conditions prevailing in different parts of the United States.

THE DEVELOPMENT OF RURAL SCHOOLS AN ESSENTIAL FACTOR IN IMPROVED CONDITIONS OF LIFE IN COUNTRY DISTRICTS.

ILLITERACY in the rural districts of America is almost twice as great as in the cities, due chiefly to the inferiority of rural schools and the poor attendance on those schools. In some parts of the country the conditions are truly appalling and it is to call attention to the necessity for a remedy that the Chamber of Commerce of the United States through its Civic Development Department has recently issued a pamphlet devoted to the rural school and its problems.

The interdependence of the city dweller and those who live in the country is receiving at least some slight recognition on the part of the general public today, but the extent of this interdependence is not yet broadly understood, even though there is an increasing number of people who are coming to see that only as the farmer and his children are reasonably prosperous and well cared for, only as the welfare of the dweller in smaller communities is taken into consideration, can the larger centers of population have a genuine and sustained prosperity.

Consider, for example, the ever increasing trend of population from the farm to the city. Recent figures published by the Agricultural Department show a decrease during 1922 of approximately 460,000 persons in the agricultural population of the country, the movement being strongest in the Pacific states. It is apparent to everyone that the country suffers from this migration and it is equally obvious that the movement cannot continue indefinitely because agriculture is the basis of all industry, trade and commerce, and only as sufficient food supplies are raised for our entire population can the development of the country be carried on.

Granted, therefore, that everything possible must be done to improve conditions in the rural districts, it is distinctly important that a higher standard of instruction be required in the rural school and that the entire problem be studied from the standpoint of the welfare of the country as a whole.

About one-half of the elementary school children in the United States attend rural schools, according to the Department pamphlet, the school term averaging 134 days a year against 184 days for city children. The country child has an elementary school course of only 6 years, therefore, compared with the city child with 8 years' instruction under a better class of teachers.

One unfavorable factor in the instruction of the country districts is the distance which the children have to go to reach their schoolhouses. As an illustration of this the North Dakota State Department of Education shows that over 7500 children in that state were excused from attendance because they lived more than two and one-half miles from a schoolhouse, that being the maximum distance under the state compulsory attendance law which a child was obliged to go.

Conditions in the majority of the rural schools are such that the teachers cannot be retained for a long period. In a number of states less than 3 per cent of the rural teachers remain more than one year in the same school. A survey of one-room rural schools in a state with average facilities showed that only 5.2 per cent of the buildings have windows giving light on the left side of the pupils, 31 per cent were without window shades, 16 per cent had no proper sanitary facilities for boys, 11 per cent showed the same unfavorable condition for the girls. In 20 per cent of the schools, drinking water came from cisterns and in 37 per cent of the cases the water supply was not free from surface water.

So far as the teacher is concerned one reason why the rural school does not attract a better type of instructor is because of the insanitary living conditions. Very often the

teacher finds poor rooms, bad sanitation, unappetizing food, uncongenial people and other unpleasant conditions in the homes of the nearby farmers to which her abode is necessarily restricted. When there is a contagious disease in the house the teacher cannot attend to her duties.

In some parts of the country the difficulty has to a degree been overcome in recent years by the erection of homes especially for the teacher. There are something over 3000 of these homes in the country, according to the Federal Bureau of Education, most of them being located in the Southwest or far West. These homes are a distinct advantage and where they have been adopted tend to keep the teacher over a period of years. A difficulty is found in that the teacher is compelled to live alone. This is usually objectionable and is sometimes a serious weakness in the plan.

It is a somewhat surprising fact that many district schools have an insufficient number of children to justify even the small amount which is expended for their maintenance. For instance, there are in New York state more than 3000 schools, according to the Department pamphlet, which had an average attendance of less than 10 pupils in 1920. Of this number 15 had an average of one pupil, 52 of two pupils, 167 of three, 259 of four, 392 of five, 430 of six, and 566 of seven.

There is no immediate and complete solution of the rural school problem but the light is breaking. Conditions permitting, the best solution so far found is in the creation of consolidated schools. Such a school takes the place of two or more district buildings. It is sometimes referred to as a union school, also as a centralized school. The aim of these schools is well presented by the report of the Superintendent of Public Instruction for the State of Washington, as follows:

To better the school plant, i. e., to make possible the erection and maintenance of more modern school buildings and school equipment.

To enable the district to increase the teaching staff and to obtain better trained teachers.

To give the rural community the advantages of the uniform graded school.

To make possible the establishment of high school courses, and, in many instances, to enable the district to erect a modern high school building and properly equip it.

To provide special work, such as manual training, domestic science, etc., in the rural community.

To increase community interest both in the school and in community activities by providing a central meeting place under attractive surroundings and by making the school more the center of the community circle.

Many of the more progressive rural schools now provide the pupils with a hot dish to supplement the cold lunch brought from home. This is regarded as of particular importance because the distance is too great for the children to go home at the noon hour, and in addition to being a distinct benefit to the health of the child the preparation of the hot lunch offers an opportunity for the teacher to give lessons in practical home economics.

CONGRATULATIONS TO THE BIRMINGHAM AGE-HERALD.

THE Age-Herald of Birmingham has bought for its permanent home a 27-story building erected several years ago for a bank. This building is regarded as one of the finest pieces of architecture in the South, perfect in all of its appointments. Looking to the possibility of still further growth, and preparing for that, the Age-Herald has also bought an adjoining building to protect itself in the future if more press room should be needed.

We doubt if there is any other newspaper in the United States that owns for its own office and press facilities a 27-story building. The Age-Herald is to be congratulated on this illustration of its own energy and activity and prosperity, and of the future of Birmingham which justifies such an expenditure.

Immense New Merchant Mill of Tennessee Coal, Iron and Railroad Company Now Operating.

MODERN PLANT ERECTED AT COMPANY'S FAIRFIELD WORKS WILL PERMIT OUTPUT OF 10,000 TONS OF STEEL BARS MONTHLY.

One of the most modern merchant mills has recently been put into operation at the Fairfield Steel Works of the Tennessee Coal, Iron & Railroad Company, Birmingham, Ala. By this addition, the company can meet the demand for certain merchant mill products in the South, particularly concrete reinforcing bars.

The mill, which was built by the Tennessee Coal, Iron & Railroad Company, consists of a 16-inch 6-stand continuous roughing train, a 12-inch 4-stand, continuous train, an intermediate looping mill of three 12-inch stands, and a finishing stand provided with 11-inch pinions, making it possible to use either 10-inch or 12-inch rolls for finishing.

It is estimated that the capacity of the mill will be 10,000 tons per month. The principal products will be 3-8-inch

of steel mill building design with a brick partition wall between the motor house and mill. The crane span is 39 feet. The building is served by one 25-ton traveling crane with a 10-ton auxiliary.

Billets, 4 in. by 4 in., ranging from 13 feet to 22 feet in length are delivered to a billet yard runway where they are handled by a 25-ton crane to a storage bed located in the runway adjacent to the entering end of the merchant mill building.

The billets are placed as needed on inclined skids by the crane and then they are pushed by hand onto the approach table of the reheating furnace. A small, motor-driven charger mounted on a track over and parallel to the approach table pushes a billet endwise into the reheating furnace, and



GENERAL VIEW OF MILL, ROLL RACKS IN LEFT CORNER.

to 1 5-8-inch plain and deformed rounds and squares, and small flats up to three inches in width and one-inch in thickness.

The main mill building is of standard steel mill building design, 80 feet wide by 840 feet long, with full ventilating monitor sash extending the entire length of the building. The crane span is 75 feet 6 inches. The elevation of the crane rail is 27 feet 6 inches above the floor line. The mills end is provided with a 5-ton traveling crane and the shipping end is provided with a 15-ton traveling crane with a double drum hoist and equipped with spreader beam for handling long bars up to 80 feet in length. Adjacent to the mill building is the motor house which is 43 feet by 280 feet; and it is also

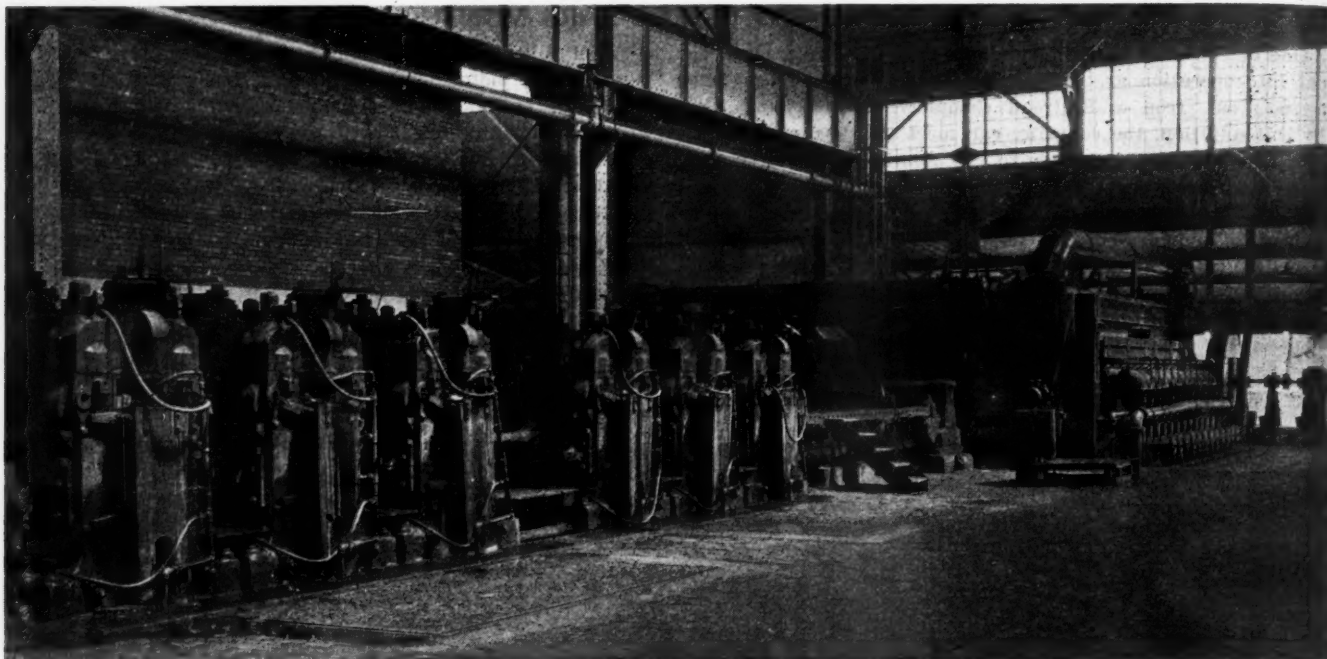
a mechanical pusher then moves the billets sidewise through the furnace. The billets are discharged from the furnace by pinch rolls into a hot billet shear, to be sheared to the required lengths before entering the 16-inch 6-stand continuous mill.

The heating furnace is of the continuous type, 23 feet wide inside the brickwork and 45 feet 9 inches long from center line of charging door to center line of discharge door. It was designed to heat an average of 30 tons of steel per hour. The stack is 4 feet 3 inches inside diameter of brickwork, 120 feet high, with damper controlled by a Carrick furnace regulator. Coke oven gas is used for fuel and is brought to twelve burners placed in the discharge end of furnace. The

burners were designed and built by the Surface Combustion Company, New York, and are of the low pressure type with water cooled nozzles. They are equipped with diaphragms which operate governor valves leading to the gas line and maintain the gas at atmospheric pressure. At this pressure the gas is mixed and carried into the furnace with blown air

equipped with plain $2\frac{1}{2}$ inches by $6\frac{1}{2}$ inches steel skids placed in the brickwork.

The 16-inch 6-stand continuous mill is driven by an Allis-Chalmers, 1500 h.p., induction motor, 593 r.p.m. full lead. This motor is connected by a flexible coupling to a Fawcett primary reduction drive which in turn drives the Fawcett



CONTINUOUS FURNACE AND 6-STAND 16-INCH CONTINUOUS MILL.

supplied by a fan of 12,000 c. f. m. capacity at 15-inch water column pressure. The air to the fan is taken from a wind-box placed over the roof of the furnace where its temperature is raised to approximately 225 degrees F. Short water-cooled skids are placed at the charging end of the furnace where the flue gases escape, but the remainder of the hearth is

main mill drive consisting of cut herring bone spur gears mounted in cast iron housings. From the mill the bar passes over a roller table in which is placed a 2-inch by 2-inch hot billet shear which is used both for cropping and cutting the bars to desired lengths before entering the 12-inch continuous mill.

The continuous mill is driven by a 1500 h.p., Allis-Chalmers



SHEAR TABLE AND COOLING BEDS.



GENERAL VIEW OF MERCHANT MILL, INCLUDING LOADING TRACKS, ASSEMBLING BEDS, CRADLES, SHEARS AND COOLING BEDS.

Kraemer set, 712 r.p.m., base speed, 890 r.p.m. maximum, and 540 r.p.m. minimum. A Fawcus primary and main mill drive is also used on this mill similar to that used on the 16-inch mill.

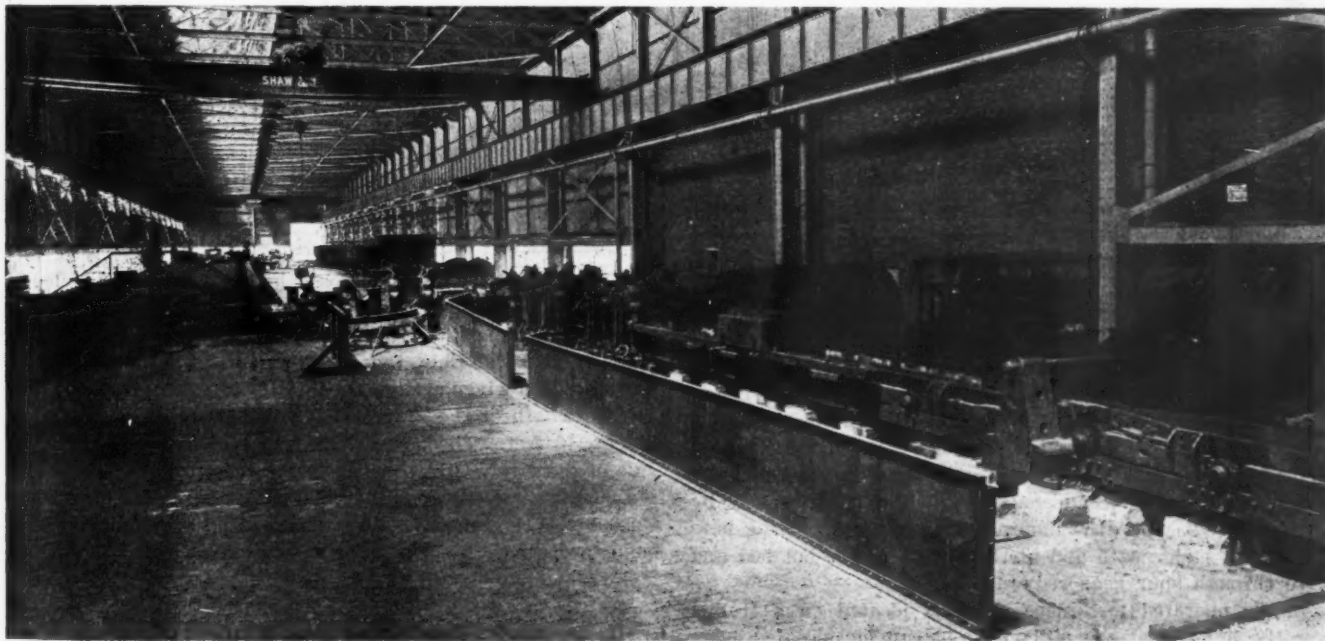
The 3-stand 12-inch intermediate looping mill is driven by a 1250 h.p. Allis-Chalmers Kraemer set, 570 r.p.m. base speed, 710 r.p.m. maximum, and 430 r.p.m. minimum, through a Fawcus gear set.

The finishing stand is driven by a 500 h.p., Allis-Chalmers Kraemer set, 712 r.p.m. base speed, 888 r.p.m. maximum, and

onto the hot runout tables of a double Griffith type mechanical hot bed, 250 feet long and 24 feet wide center to center of the cold runout tables.

The hot bed is separated from the finishing stand by about 50 feet and the material is delivered to either side by means of hot runout troughs and an air operated switch which is pivoted at the finishing stand.

The hot runout tables located in the center of the double hot bed, are driven by an endless cable, the head sheave being driven by an adjustable speed motor. This motor drive is



SHEARS, 4-STAND 12-INCH CONTINUOUS AND 4-STAND 12-INCH LOOPING MILLS.

540 r.p.m. minimum. This finishing stand is driven by a Fawcus combination reduction and pinion set. All bars are passed through the looping and finishing stands by repeaters. Cutler-Hammer control was used for all of the mill motors.

The finished product is delivered from the finishing stand

also belted to a set of hot runout pinch rolls, which are used only to aid in delivering light and short bars from the finishing stand to the hot bed.

The bars are delivered alternately to each side of the hot bed at a speed slightly faster than the delivery speed of the

finishing mill to prevent buckling of the bars. As the bars reach the desired position they are lifted from the hot runout table and deposited on stationary grate bars by scalloped lifting bars extending across the hot bed. The lifting bars are mounted on a structural frame with the side toward the hot runout table supported on a continuous motor driven eccentric shaft extending through the entire length of the hot bed. The opposite side of the frame is suspended by hangers under the cold runout table. Each rotary movement of the lifting bars operating between the stationary bars advances the cooling material $4\frac{3}{4}$ inches toward the cold runout table. The cooled bars pass from the end of the lifting bars onto shuffle bars extending over the cold runout table. The ends

cradles mounted on platform scales for weighing. The scales are of the suspension platform mill type, consisting of four platforms, each of which is 4 feet wide and 36 feet long. A pair of platforms is placed on the side of each back shear table and each pair of scales is equipped with devices for connecting the two scale beams so that they can be used as one weighing unit when handling long bars.

Bars are removed from the cradles by the 15-ton shipping crane and placed either in storage racks or in cars for shipment.

An auxiliary shear with skid bed and roller table is located in rear end of building for shearing special short lengths of bars.



COOLING BEDS OF THE MERCHANT MILL.

of the shuffle bars toward the lifting bars are also supported on a continuous motor driven eccentric shaft extending through the entire length of the hot bed, the opposite ends are supported by small rollers on levers mounted on a continuous rocker shaft. The rocker shaft is operated by an air cylinder located underneath and at the center of the hot bed. The movement of the rocker shaft drops one end of the shuffle bars and deposits the cooled rods on the motor driven cold runout tables which deliver to the cold bar shears. The hot bed has a capacity of 38 rows of bars, 19 on each side.

The motors for driving the shuffle bars and cold runout tables are located at floor level between the hot bed and the cold bar shears and connected to their respective shafts by spur gear sets, while the motors for driving the lifting bars are located underneath and at the middle of the hot bed and drive through spur gear reduction sets.

An air operated test piece shear is located on a trolley over the hot bed at the mill end and can be operated from either side of the hot bed.

The cold finishing equipment consists of two units leading off from each side of the hot bed. Each unit consists of one vertical stop shear and back shear table with hand operated gauges and platform scales.

The sheared bars are pulled off the table by hand into

Further Details on Proposed \$40,000,000 Hydro-Electric Development of Susquehanna Power Company.

In connection with the proposed hydro-electric development on the Susquehanna River near Conowingo, Md. by the Susquehanna Power Co., New York, at an estimated cost of \$40,000,000, Boyd Ehle, the construction engineer of the company at Conowingo writes the MANUFACTURERS RECORD:

"The length of the concrete dam is 3300 feet; approximate height, 70 feet. The powerhouse will be located on the west side of the river, 115 by 660 feet, and it is proposed to install ten 30,000 horse power units generating approximately 1,000,000,000 KWII annually. Detail plans and specifications are being prepared. No contracts have been awarded."

Briquetting Zinc Ores for Retort Distillation.

B. M. O'Harra, assistant metallurgist, Department of the Interior, attached to the Mississippi Valley experiment station of the Bureau of Mines, Rolla, Mo., will undertake a study of the briquetting of zinc ores prior to distillation in retorts. This study will be undertaken as the result of suggestions made at a recent meeting of the American Zinc Institute.

New Steel Foundry at Fairfield Car Works.

TENNESSEE COAL, IRON AND RAILROAD COMPANY COMPLETES BASIC OPEN HEARTH STEEL FOUNDRY FOR PRODUCTION OF CASTINGS ON LARGE QUANTITY BASIS.

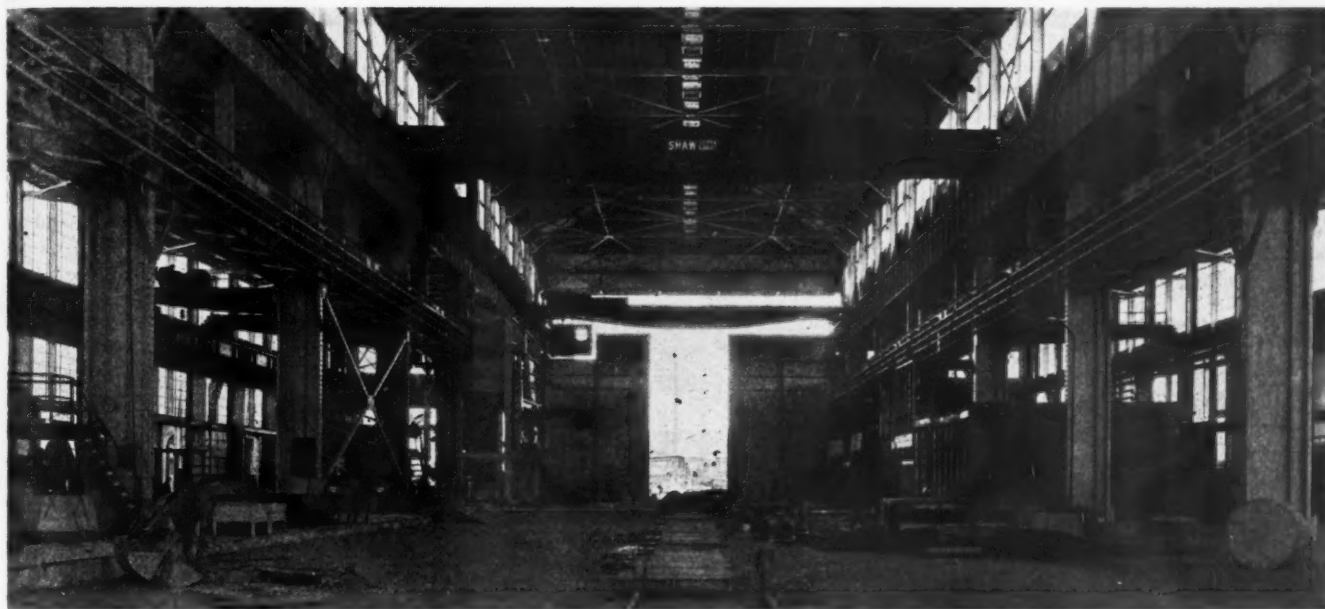
The new steel foundry recently completed at the Fairfield Car Works of the Tennessee Coal, Iron and Railroad Company was designed for manufacturing miscellaneous car castings on a production basis for use at the company's car works and elsewhere, also the manufacture of large and miscellaneous general steel castings required for the various works of the company in the Birmingham District. This foundry was put in operation during April, 1923, the first heat being poured April 14. A brief description of the plant follows.

The exterior walls of the plant building are of red shale brick with concrete coping, extending five feet above the yard level. Above the concrete large areas of glass are used. The building consists of three bays. The main bay is 80 feet wide and 400 feet long, and on each side of this is a lean-to; the east lean-to is 50 feet wide and 400 feet long and the west lean-to is 50 feet wide and 450 feet long. The combined floor area of the three bays is 74,500 square feet. Very lib-

the storage of pig iron, scrap, etc., used for charging in the open-hearth furnaces. Material is received in standard gauge gondola cars, and magnets are used for handling.

A material track having an inclined approach enters the building from the south and passes over concrete storage bins at an elevation of approximately 12 feet above the floor level. These bins form a part of the building and are used for the storage of all sand, clay, limestone, etc. The materials are shipped in drop bottom hopper cars and dumped directly into bins. An overhead monorail telfer system is provided to deliver these materials to sand mills and charging floor.

Excellent crane service is provided throughout the foundry. The main bay has three cranes, one of 75-ton capacity and two of 25-ton capacity each. The large crane is used almost exclusively for handling hot metal. Each of these cranes has an auxiliary hoist. In the west lean-to there are also three cranes, two of 20-ton capacity and one of 10-ton capacity. The 20-ton cranes are used to handle hot metal ladles



LOOKING NORTH IN MAIN BAY, SHOWING MOLDING FLOOR, AND IN RIGHT BACKGROUND, POURING SIDE OF O. H. FURNACES.

eral allowances have been made in the design of this building for heights. In the main bay the crane runway is 45 feet and the bottom chord of the roof trusses is 65 feet above the floor level, while in each one of the lean-to bays the crane runway is 31 feet and the bottom chord of roof trusses is approximately 42 feet above the level of the floor.

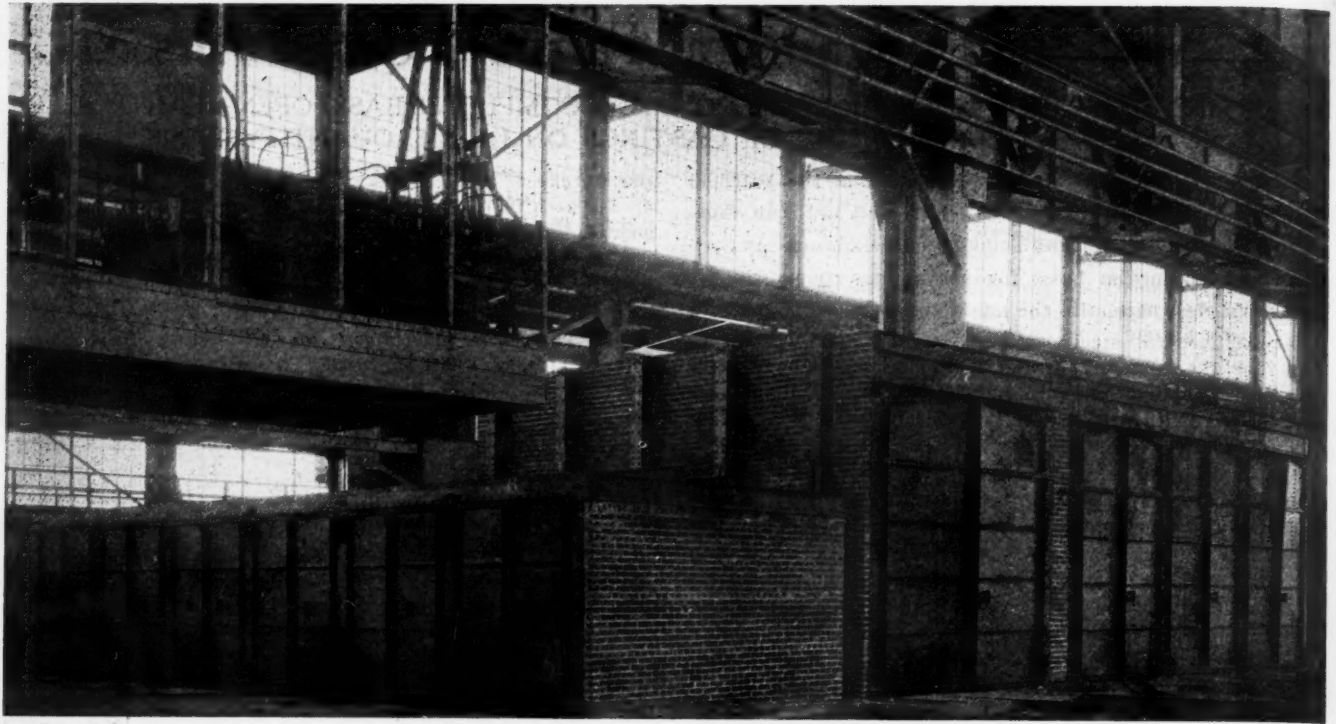
The roof of the main bay is of corrugated asbestos protected metal. Eight Swartwout ventilators 6 feet in diameter have been provided. The roofs over the two lean-tos consist of a cast-in-place Gypsum slab covered with composition roofing.

In the north end of the mainbay, the crane runway is extended 100 feet outside of building, and the area under this runway is used as a flask storage, the flasks being transferred in and out of the foundry as needed by the overhead cranes. This is an important feature of design and saves a large amount of floor space as only the flasks in actual service will be found inside of the building. Adjacent to the flask storage runway on the east side is located a stock yard, 83 feet by 200 feet, having a crane runway with an elevation of crane rail 45 feet above the ground level. This stock yard is for

and to move moulds in multiples, and the 10-ton crane is used exclusively in the cleaning and shipping department. In the east lean-to there is provided one 10-ton capacity crane for general service.

On the west side and close to the foundry building is located a brick building one portion of which houses a chemical laboratory, completely equipped. The remaining space is used as offices for the foundry superintendents and clerks.

In the north portion of the east lean-to are located two 25-ton basic open-hearth furnaces of the stationary type, elevated sufficiently to accommodate the charging floor which is 12 feet above the main floor level. The pouring sides of the furnaces extend slightly into the main bay of the foundry, permitting pouring of metal into ladles suspended from cranes in the main bay. The furnaces are designed for the use of tar and by-product gas as fuel and are therefore provided with air regenerating chambers only. The simple arrangement of the stack dampers and air valves and also the direct course of the flues to the stack are important features in the design of these furnaces. The air valves, dampers, and furnace doors are all electrically operated from a central sta-



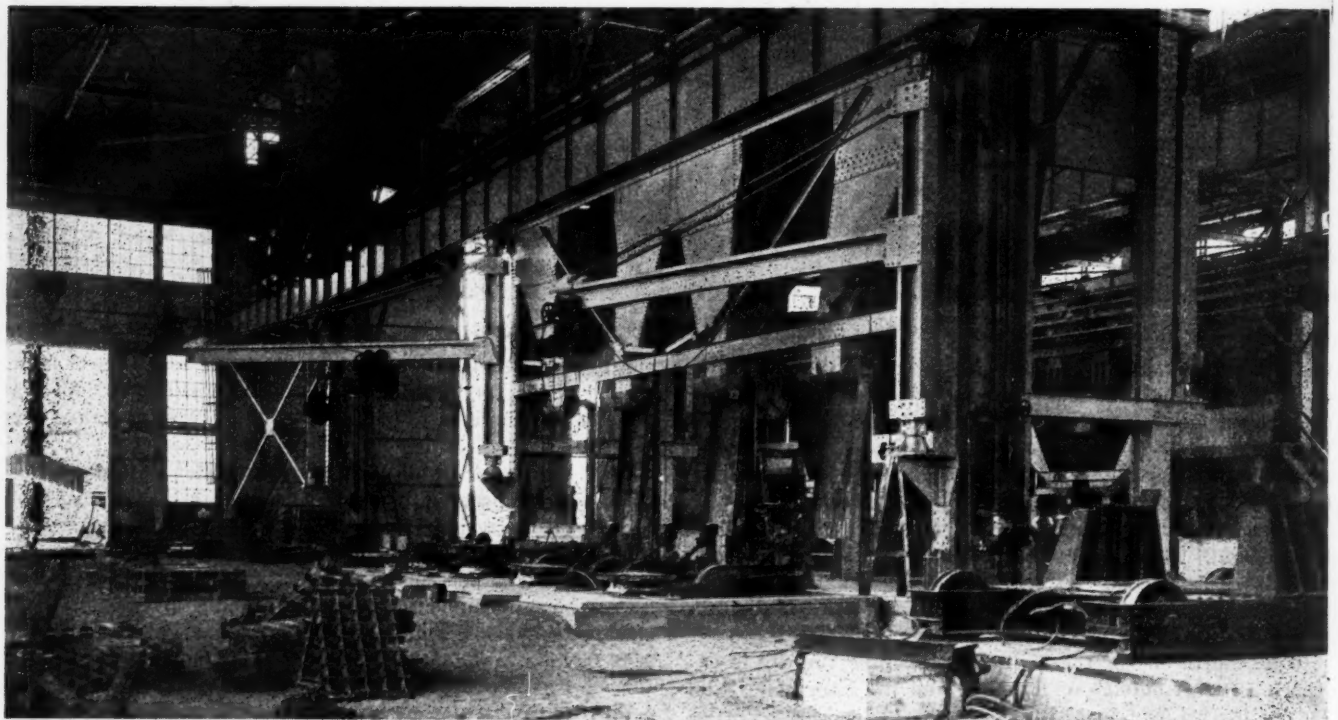
CORE OVENS AND MOULD DRYING OVENS.

tion on the charging floor, directly opposite each of the furnaces.

After being made up in the stock yard the furnace charges are placed in cars on the charging floor extension under the crane runway. Each car holds three charging boxes. A 3-ton high type Wellman-Seaver Morgan charging machine has been provided to handle cars and charge the furnaces.

The west bay of the foundry is intended exclusively for the

work. The fifth is separated from the others and intended for special moulding. Directly over this group of machines are elevated sand bins from which sand is delivered directly into the flasks placed on jarring machines. The bins are of steel construction. The sand is delivered into them from an 8-foot No. 3 Simpson intensive foundry mixer, where sand is prepared and discharged into an elevator, and passed on to a belt conveyor which discharges into any one of the bins.



LIGHT CASTING DEPARTMENT, SHOWING JOLT ROLLOVER MACHINES AND SAND BINS.

manufacture of miscellaneous car castings and other small castings on a production basis. Only machine moulding is done in this bay. Five Herman jar and roll-over stripper type machines have been provided for this purpose. Four of these machines have been placed in one group for production

An individual scraper at each bin, operated from the mixing platform, is used to deflect the sand into the different bins. For moulding the flasks are placed on the moulding machines by means of jib cranes with electric hoists. The completed moulds are transferred from the moulding machines by the

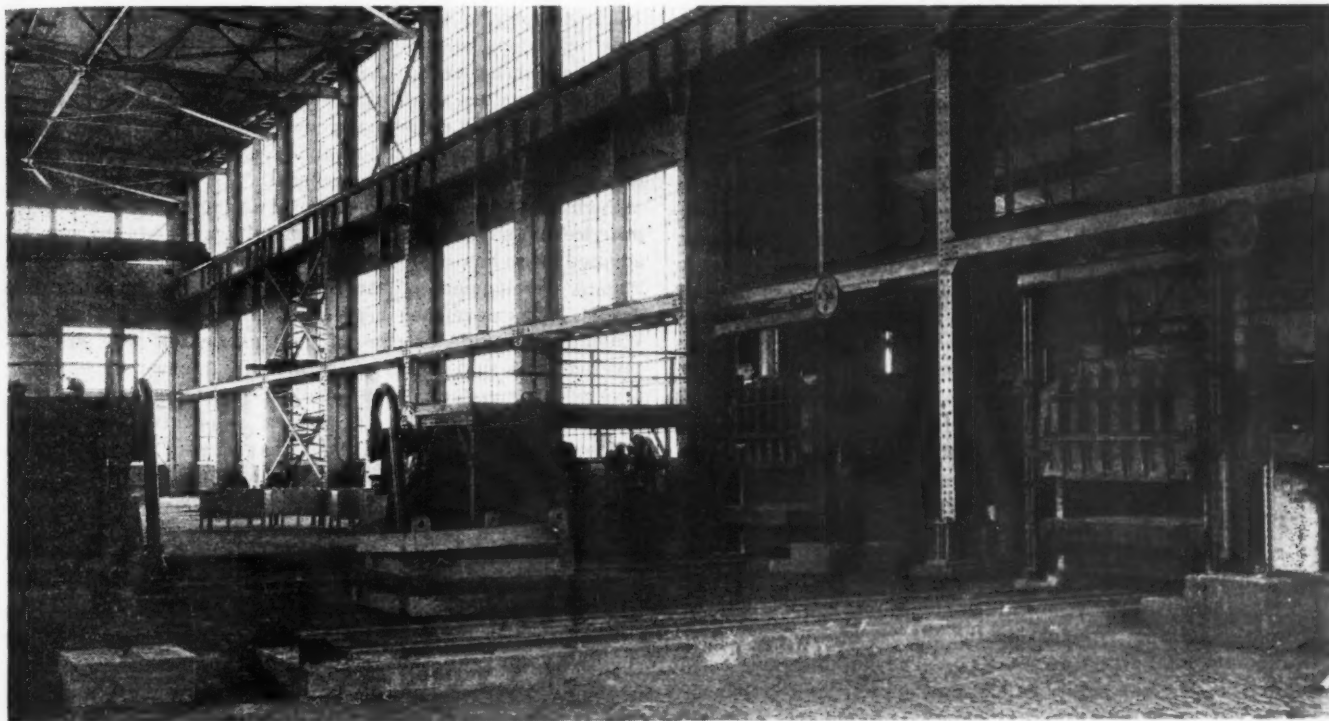
same jib cranes and placed along side of the machines on skids, each skid accommodating four complete moulds. These skids are then transferred by an overhead traveling crane and placed in pouring position on the floor. The hot metal required for this section of the foundry is supplied by a transfer car from the main bay into this lean-to.

After being poured the moulds are conveyed on the same skids to the shakeout floor. A Herman plain jarring machine, placed on a high foundation, is used for shaking-out the flasks. After being flogged the castings are placed on grids and then charged into the annealing furnaces, of which there are two of the car type, each 7 ft. 4 in. wide and 28 ft. 6 in. long. High pressure by-product gas is used as fuel. After

by means of dump-buckets carried by a 2-ton monorail trolley. For drying cores, 6 ft. by 12 ft. gas-fired core ovens are installed. The cores after being placed on portable racks are transferred from the core making department to the ovens by means of storage battery lift trucks. The finished cores are also conveyed to the various parts of the foundry in like manner. Concrete runways or floors have been provided for these trucks to travel on.

The mixed foundry sand from the large Frost mill is conveyed in boxes to various points in the foundry by these lift trucks and the overhead traveling cranes.

The extensive employment of heat measuring instruments constitute another feature of this foundry. As a result guess



ANNEALING OVENS AND TUMBLING MILLS—LIGHT CASTING DEPARTMENT.

being annealed the castings are cleaned by two 48 in. diameter exhaust tumbling mills and further cleaned by means of flexible and stationary grinders.

The shipping room is located at the extreme south end of the lean-to. Wood-block floor construction is used in the cleaning and shipping departments.

The main bay is used for moulding, pouring and cleaning of large and miscellaneous castings for the Tennessee Coal, Iron & Railroad Company's own requirements. The equipment provided in this bay consists of four gas fired mould drying ovens, one Cay type 16 ft. x 17 ft. annealing furnace and one 12 ft. x 16 ft. Sand Blast Room. Two large Herman jar, roll-over and stripper machines have also been provided. The sand bins for these units are combined in the same layout with the sand bins used for the west lean-to and are fed by the same equipment as before described.

Shipping tracks extend approximately 50 feet into the building, and large scales are provided adjacent to each track for weighing all castings before shipment is made.

All of the east lean-to with the exception of that portion occupied by the open-hearth furnaces and charging floor, is used for sand mixing and core making. Two sand mills are provided, one small 6 ft. No. 2 Simpson mill is used for mixing core sand and one large 9 ft. Frost mill is available for foundry sand.

For the making of cores, a long continuous bench is provided with overhead sand bins of wood construction. The sand is transferred from the core mixing mill to these bins

work is eliminated and definite results are obtained in annealing and drying operations. The annealing furnaces are equipped with Leeds-Northrup recording potentiometers with a range from 200 to 1800 degree F. Recording instruments are located in the laboratory where the foundry superintendent is furnished with complete and continuous records. The mould drying and core ovens are equipped with recording thermometers of the Bristol type.

Another feature is the fueling of core annealing and drying ovens. That is, the use of the Service Combustion Engineering Company's system of burning by-product coke oven gas under high pressure. The gas is delivered to the plant at a pressure of from 10 to 20 ounces, and is then compressed and delivered to the furnaces at from 10 to 15 pounds pressure. This system has been found very economical and satisfactory.

The estimated capacity of this foundry is approximately 1400 tons of steel castings per month, ample allowances having been made for losses.

To Build \$650,000 Theater and Office Building.

St. Louis, Mo., July 14—[Special.]—Plans are being prepared by Thomas W. Lamb of New York for a theater and office building to be erected here by the St. Louis Realty-Amusement Corporation at a cost of \$650,000. The office portion of the structure will be three stories. Steel and reinforced concrete construction will be employed, with hollow fireproof tile, hardwood and concrete floors, ornamental terra cotta, metal doors, mail chutes, ventilators and wire glass.

Country Can Look to Georgia for Its Refractory Clays, Is Belief.

Atlanta, Ga., July 14—[Special.]—That Georgia contains some of the highest-grade refractory and super-refractory clays in the world, and that eventually most of the United States will rely upon Georgia for its super-refractory clay, is the opinion of Arthur F. Greaves-Walker, a noted ceramic and refractory clay expert, who has recently purchased an interest in the Stevens Brothers Clay Company, of Atlanta.

"My attention was first drawn to the possibilities of the Georgia clays in 1905, when I was doing research work in the bauxitic clays of the central part of the state," says Mr. Greaves-Walker. "Since that time I have made several extended visits to the state, and each time have been more and more impressed with its possibilities.

"Following the experiments conducted by the United States Bureau of Mines in co-operation with the Central of Georgia Railway, and the announcement that a Ceramic School had been established at the Georgia School of Technology, I made up my mind to locate in this field.

"In my opinion, the Ceramic Department of Georgia Tech will do more to advance the development of Georgia's clay products than anything else possibly could, and I hope that the state legislature will support the new school properly and not leave the burden entirely upon the business men of the state who are interested."

Mr. Greaves-Walker is president of the American Ceramics Society, past president of the Canadian National Clay Products Association, and a fellow of the National Academy of Science. During the World War he was technical adviser for refractories with the War and Navy Departments, as well as for the United States Shipping Board, and his belief in Georgia's clay products speaks well for this industry.

\$800,000 John Dibert Memorial at New Orleans.

The "John Dibert Memorial Building for Hotel Dieu" to be erected at New Orleans, by the Sisters of Charity of St. Vincent De Paul will cost \$800,000. The building will be of reinforced concrete construction, four stories and basement, 250 by 50 feet with an ell returning 50 by 40 feet. It will rest on pile and concrete foundations and will have wood, marble, terrazzo and tile floors and a composition roof with quarry tile finish.

Paul Andry of New Orleans is the architect and George J. Glover, also of New Orleans is the general contractor. Contract has been awarded to the Douglas Electric Construction Co. of New Orleans for the electrical work.

A Great Mexican Silver Mine.

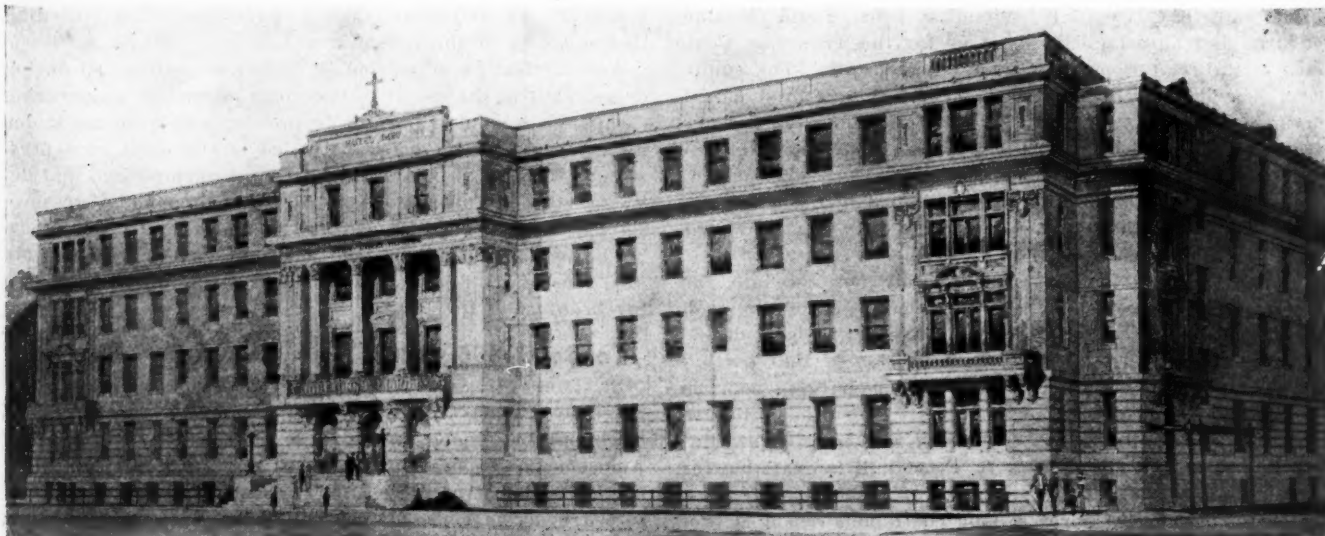
Pachuca, Mexico, July 12—Since the new refinery of the Real del Monte y Pachuca Mining Company was placed in operation nearly a year ago it has produced and shipped daily approximately two tons of pure silver and five thousand dollars worth of pure gold. This refined production comes from 3000 tons of ore treated daily at the company's plants. It is asserted that this company is producing at this time one-twelfth of the world's silver and one-fifth of Mexico's silver annual output. It has expanded its mining operations until it is today the richest single mining company in the world, it is declared. It owns the cream of the rich mines of the Pachuca district. Some of these properties have been worked continuously for four hundred years.

The refinery of the company is enclosed by a fence barricade with loop-holes for rifles and machine guns placed in it at regular intervals. A strong guard of armed Americans, most of whom are world war veterans, protect the plant from possible raids by robbers day and night. In the employ of the company is a large group of expert mill men, metallurgists and mining men in general.

Pachuca has long been recognized as the center of advanced practice in silver mining and metallurgy and any process adopted here has been accepted by the mining world as the highest development of the science, since the famous "patio process" was developed here about three hundred years ago. When the cyanide process of gold extraction was first discovered it is said to have attained its highest development here and the apparatus and methods went out over the mining fields of the world as "Pachuca" apparatus and "Pachuca" processes. The town, itself, has a population of about 30,000, located in a pocket of the mountains which open out to a long level valley.

The Real del Monte interests dominate the town. Hundreds of freight cars are to be seen. The company has immense workshops, its great motor trucks roar through the narrow streets, its offices occupy the ancient treasury of the colony, practically every other man is an employe of the company, the tailings from its mill flow through the center of the city from one end to the other, and over all, night and day, is the roar of the great mill, grinding over three thousand tons per day.

The ore of the district is said to be of remarkably uniform character and apparently unlimited in quantity, as, after being worked from prior to the time of the conquest, there is no sign of its exhaustion. On the contrary, new bodies are constantly being opened up with much territory yet to be explored.



\$800,000 JOHN DIBERT MEMORIAL BUILDING FOR HOTEL DIEU.

Tariff Legislation and American Progress.

THE STORY OF A HUNDRED YEARS UNDER THE TWO POLICIES AS TRIED OUT.

By JOHN H. KIRBY of Texas.

Those who have acquainted themselves with political history know that protection was introduced into our government by the founders of the democratic party. To dispute this is to take issue with a recorded event proclaimed by some to be of equal importance to the adoption of the Declaration of Independence. A business man, however, will not test the policy by its parentage; he will rise to a truer basis; he will throw it upon the scales of economic virtue and praise or condemn it according to its influence in shaping the destiny of the Nation.

Now let us carefully review the past and see just which tariff idea has best served the country in this respect. If it is wise for a farmer to sow his field to the most promising grain, or for a wool man to raise that particular breed of sheep which render the surest profits, isn't it wisdom also to choose a political policy with the same thing in view? I think so, and as surely as experience teaches us that agriculture cannot thrive by the use of seeds of a low germinant power, that surely it teaches that industry will fall under any unfruitful plan of government.

Every one who has made a careful study of the growth of our country, must know that its development, its progress and its prosperity, bear exactly the same relationship to a protective tariff that waving corn fields and ripening wheat bear to the nurturing moisture a beneficent Providence places in the soil. And he must recognize, too, that following the passage of every free trade or low tariff law which has been enacted there has come nation-wide distress.

It might be interesting, as well as surprising, to many of my democratic friends to learn that Woodrow Wilson corroborates this statement in one instance at least, in his history of the American Republic. Commenting on the cause of distress which prevailed during that low tariff period between 1816 and 1824, and, relating how the distress was remedied, he said:

"It was manifestly injurious to every young industry that a flood of English imports should continue to pour into the country at the open ports. The remedy was a protective tariff, and the young republican (democratic) leaders of Congress did not hesitate to advocate and establish it."

The low tariff law of 1816, which lasted for eight years, absolutely checked the progress of the Republic. The people suffered financial ruin following its passage, and there was no prosperity until the restoration of protection in 1824 brought it about. And it is an unchallenged truth of history that protection was so thoroughly responsible for this restoration that Daniel Webster surrendered his free trade theories to the overpowering influence of physical facts, and thereafter he fought with his great intellect the policy he had once espoused.

Four years later a new bill further increased import duties and that section of the country which commenced to diversify its industries thrived as no part of the western world had ever thrived before. In South Carolina and other Southern states, however, the people stuck to the raising of cotton for exportation and consequently there developed opposition to a policy, which at that early date offered no special benefits to agriculture. The result was the passing of "the ordinance of nullification" by the followers of that master debater of the old days, John C. Calhoun. On March 2, 1833, the Compromise Bill was passed to pacify the dissatisfied element and prevent the possibility of secession. This measure provided for a gradual reduction in duties, but calamity resulted and conditions were so intolerable by 1842 that tariff rates

were restored again to the level maintained previous to the trouble in South Carolina.

Prosperity came as a result of adopting once more the safe and sane economic policy responsible for all our progress. But new issues were developed in the election of 1844 and Henry Clay was defeated by James K. Polk, a candidate believed in the North to be a Protectionist. Under this administration the famous Walker bill was placed on the statute books, and although it was a low tariff measure the usual detrimental effects were not immediately felt. This fact is often cited by those who oppose protection, as an argument to prove that the deduction of import duties has not always been followed by serious consequences. Such reasoning, however, will not stand any thorough investigation. The Mexican War, the discovery of gold in California and that terrific European struggle which involved Great Britain, France, Germany and Turkey, suspended temporarily the evil consequence of the new law. When peace returned and the importers' flags again flew through our partly open ports, the inevitable judgment of the ruinous policy fell heavily upon our heads.

The cause for this distress was not attributed by the democrats to the Walker Bill, however, and in 1857 they passed another law further reducing the tariff rates. It proved to be an effort to cure the bite of a poisonous snake by fastening deeper its fangs in the heart of industry, and it was shortly following that deed, which arrested a country's growth and deliberately assassinated prosperity, that the democratic president himself told a tale of woe such as no other chief executive of this nation has ever had to utter, and as a climax and a lofty tribute to the unwise policy of having American markets beat to earth by foreigners, he said:

"Indeed all hope seems to have deserted the minds of men."

From 1846 to 1860, when the government was operating under the policy of anti-protection, the pages of the history of American progress will bear me witness that not a single competitive industry was established, that labor was idle for the most part, factories suspended and agriculture in dire distress. This unwholesome condition was remedied by the passage of the Morrill Bill, and aside from the misery wrought by our great civil strife and that financial panic which came in 1873, the result of inflation, over-speculation and the reduction of tariff duties in 1872, America was fairly prosperous up to the passage of the Wilson-Gorman Bill. This bill placed the products of the South—the raw materials—on the free list and it swept with a wide and devastating wing, like an invading army, along its way. Many of us remember that period; no darker days ever came to a nation at peace with all the world. Financial institutions crumpled up like egg-shells, agricultural products rotted in the fields for the want of bidders, men walked the streets of the cities by day and by night, unable to earn the price of a meal of victuals and a bed to sleep in.

The Dingley Bill, passed in 1897, rolled back this wave of despair and again set up the structure of prosperity. But people will forget. The disregard of experience, the closing of our eyes to history, forever send us to the mourners' bench sinners against political wisdom. Surely nothing but a lapse of memory, or a stubborn resistance to the marching orders of national progress, ever allowed us to abandon the Payne-Aldrich covenant with prosperity, for the Underwood monitor of despair, armed with guns of war trained on the throbbing heart of American industry.

By the middle of 1914, following the passage of this law, we

were again suffering the inevitable consequences of a rebellion against reason. Four million people were out of work, business was stagnated and agriculture lay prostrate, the victim of a knock-out punch administered by a professed friend.

Then the World War came, there was a demand at any price for everything we had to spare. Foreign nations which were sellers to the United States suddenly became buyers. The demand abroad for the battlefield kept European products in Europe and raised about us a wall of protection greater than any measure ever proposed save Jefferson's embargo against Britain.

We were permitted, of course, under such circumstances to prosper, because our home markets were safeguarded by war, as completely as we can safeguard them with tariff duties. But there dawned a day when this condition changed. As quickly as it was possible for Europe to catch up a little in production, the lure of American gold started every available ship to our ports laden with goods. By 1920 the dumping had become so great that the home factories using high priced labor, found it impossible to compete with the foreign factories using poorly paid labor, and closed their doors. Immediately the whole nation was submerged in despair and five million people were unable to get a job at any price.

The Fordney-McCumber Law, the most equitable ever enacted in our country, has removed the debris again and today we sail a smooth sea, with labor employed, mills running and a profitable home market alike for producers and manufacturers. I wish that this healthy condition might be permitted to remain; that the politicians could be persuaded to treat tariff as an economic policy rather than a principle involving party loyalty.

If I were privileged to deliver a message which would reach every democratic ear, I would pay tribute from an appreciative heart to the noble achievements of those men and women whose lives constitute the great pillars upon which rests the glory of the South. No one can look back and receive a greater thrill from the thought of being a product of the land of Jefferson and Jackson and Toombs and Lamar than I can. I would not blot from the pages of history one chapter written in deeds of sacrifice and heroism by such immortals. But we violate no principle these men espoused, we commit no political sin measured by their standards, in favoring a protective tariff, and I would plead earnestly that my countrymen might rise above their unwarranted prejudice to a broad, all-American plan and vote for the continuance of industrial development, business activity and homes secure in the maintenance of ideals which will contribute to the making of useful, enlightened, happy citizenship.

To believe this possible with our ports open, with the products of pauper labor beating down our markets, with a competition lower in needs and lower in aspirations sailing our way across every sea, is to ignore the very existence of logic and shut our eyes in the face of all the industrial tragedies written in despair across the pages of the Republic's history.

\$800,000 Apartment House for Birmingham.

Birmingham, Ala.—Work will soon begin on the construction here of a new apartment house to cost \$800,000, contract for which has been awarded to the Smallman-Price Construction Co. of this city. The building will be eight stories and basement, 100 by 195 feet, fireproof, brick construction with stone trim, and will contain 85 apartments. There will be a public dining room with kitchen and serving room on the ground floor and storage space for 60 automobiles in the basement.

The structure will be erected in the shape of an H and will be known as the Highland Plaza. William L. Denham of Birmingham is the architect.

Ford Motor Company Begins Work at St. Paul.

The Federal Water Power Commission has granted the final permit to the Ford Motor Company and work has been begun on the development at the hydro-electric power station at High Dam, across the Mississippi River, about half way between the cities of Minneapolis and St. Paul. The preliminary permit which was granted in April required that signed contracts be submitted to insure the sale of all the power which can be developed at the site. This has been complied with by a contract with the Northern States Power Company which operates the traction lines in Minneapolis and St. Paul which will take all the surplus power not used by the Ford Motor Company.

The dam where the power is to be developed was built by the United States Government in 1917 to extend navigation on the Mississippi River from St. Paul to the foot of St. Anthony Falls at Minneapolis. Such a project, which would give them an equal opportunity with the city of St. Paul, in river transportation had been agitated as early as 1867 by the citizens of Minneapolis. At the time the dam was built, a lock was constructed on the Minneapolis side and the foundation for a power house on the St. Paul side of the dam so that the dam might be used to develop power. Applications were made for the development of this power by the cities of St. Paul and Minneapolis and by the Northern States Power Company in 1921 but no favorable action was taken and the Ford application was a happy solution of the problem. The factories will benefit both cities and also provide cheap power to the traction company. Stone & Webster, Inc. has the contract for the construction of the plant and work was started as soon as the permit was granted.

In the six years intervening since the construction of the dam the art of water wheel design has so advanced that the power house foundations that were built at that time must be modified to accommodate the higher efficiency wheels of today. Approximately 34 feet of head can be utilized in driving each one of the four 4500 Hp. wheels which will be installed.

In addition to the hydro-electric development, it is planned to build a steam station at the same location which will be used to supplement the water power during low water periods of the river. The power will be used for the Twin Cities plant of the Ford Motor Company which will be erected adjacent to the dam.

The Stone & Webster engineers are now designing one of these buildings which will be 1700 feet long and 600 feet wide and which will enclose approximately 1,000,000 square feet or about 23 acres of floor space. This is to be located along the Boulevard on the bluff 100 feet above the Mississippi. From landing platforms at the river's edge a tunnel and elevators will bring river freight directly into the building. Unlike the usual factory building, the Ford Motor Company is planning to make it most attractive in design so that it will in no way detract from the beauty of the drive along the Boulevard.

The Chicago, Milwaukee and St. Paul Railroad will construct a bridge across the Mississippi over which a branch line will come directly to the plant and in this way make a direct connection for the distribution of automobiles to the Pacific Coast.

Will Build Additional Storage for 125,000 Bushels.

Fort Worth, Tex., July 17—[Special.]—Contract has been awarded by the Smith Brothers Grain Company for the erection next to the present elevator of additional storage capacity, amounting to 125,000 bushels of grain. The addition will consist of eight large oval tanks and ten interstices built of reinforced concrete and equipped with modern machinery for handling grain with the greatest dispatch. Completion is planned by September 15.

Why Georgia and Alabama Have Not Kept Pace With the Carolinas in Cotton Mill Building.

J. N. Hodgson of Athens, a Georgia cotton mill president recently asked the MANUFACTURERS RECORD why Georgia had lagged behind in cotton mill development as compared with North Carolina. In reply the editor of this paper gave his views on the matter and Mr. Hodgson has asked the privilege of publishing that letter in Georgia. On that account we are giving it to our readers as of possible interest in indicating how politics may injure a state and how one man or one paper may set the pace for a whole state. The letter to Mr. Hodgson is as follows:

"Acknowledging receipt of yours of June 25, it is somewhat difficult to give you a full or satisfactory answer in regard to the location of cotton mills in the Carolinas rather than in Georgia and other states.

"I think some of this is due to the intensity of the political campaigns in Georgia during former years. At a time when North Carolina was concentrating its energy upon industrial and agricultural development, Georgia was for years engaged in a bitter and most vindictive political campaign, in which rival candidates for the gubernatorial chair denounced each other with a bitterness which only resulted in injury to the state.

"I once attended a dinner in New York at which a number of bankers were studying the question of consolidating some large iron interests in Alabama. Two iron company presidents were in attendance, sitting some distance apart. I was so located that I could hear what each said. The president of one company, a splendid gentleman but rather bitter in his feeling against his rival president, talking to some bankers at his end of the table, praised his property as very desirable and of large possibilities, but mentioning the other property, which it was proposed to consolidate into the general scheme, he denounced that with as much aggressiveness as he had praised his own property. The other president, sitting some distance away, was repeating exactly the same kind of a story to other bankers who were near him and he too was telling how his own property was good but the other property was not fit to be included in such a consolidation. When the dinner was over one of the New Yorkers interested in bringing the bankers and these iron people together said to these two presidents. 'Do you not know that when each of you denounces the other man's property as you have been doing New York bankers will have no faith whatever in any iron property in the South? You will simply kill the possibility of securing capital from these bankers, because they are bound to consult each other and they will hear that one of you said the other man's property was no good and that the other one said that the other man's property was no good and the bankers will have no faith in anything which either of you say about the matter.'

"I think the story somewhat illustrates the situation in Georgia. For years you had a bitter, vindictive campaign surpassing in its bitterness any other gubernatorial campaign of my knowledge. The statements made in that campaign were scattered broadcast throughout the country and I think they had a certain effect in deterring investors from considering Georgia as a field for investment in cotton mills, or other industries, commensurate with what was being done in some other states.

"For years there existed in Alabama local jealousies between the leading towns and cities of the state and between some of the leading individuals, each successful in his own way, which prevented any united work for the development of the state. Birmingham criticised Anniston and Anniston

criticised Gadsden and Gadsden criticised some other place and when furnaces were built in Florence and Sheffield, other iron interests in the state predicted their failure and said that none of these places were good sites for furnace plants. Alabama is breaking away from some of that local and personal jealousy, which I think very largely retarded the development of that state for many years.

"Georgia and Alabama have just as many natural advantages for cotton industry and for furniture making and for other lines of diversified manufacturing as the Carolinas, but the Carolinas have been getting the mills. Gaston County, North Carolina, for instance, has over one hundred cotton mills and the progress of that state in this industry has been commanding not only national but international attention.

"If you will go back some years, you will find that Alabama and Georgia twenty-five years ago were commanding the attention of New England cotton mill people. At that time they built the Massachusetts mill near Rome and the Dwight mills near Gadsden and the Merrimac mill at Huntsville. New England then was looking to Georgia and Alabama as sites for cotton manufacturing to a greater extent than to the Carolinas and the mills which New Englanders built in Georgia and Alabama were I believe without exception profitable. Naturally the location of these mills should have drawn other New England investments into these states and stimulated the local people to put money into cotton mills. The Carolinas have never depended upon outside capital for cotton mill building. When it has come it has been of its own accord and not so much of their seeking. A large portion of the mills in North Carolina have been built by local capital. Men of means, large and small, have regarded cotton mills as a sound and safe investment and the result has been that cotton mills and cotton mill stocks are talked of in every village in these states, and the local people are the largest owners of the capital of the mills. This very faith in their own mills has caused Northern capital to seek investment in these mills and thus the combined power of local and outside capital has been concentrated upon this work.

"I think, moreover, that the Carolinas were the first two of the Southern states to fully appreciate the meaning of water power and hydro-electric development for the cotton mill industry. Thirty years ago, D. A. Tompkins, of Charlotte, one of the greatest industrial developers and most far seeing men which the South has ever produced, concentrated his whole life upon teaching and preaching and practicing investment in cotton mills. As one of the owners of the Charlotte Observer, he made that paper the outstanding exponent among daily papers of industrial and business development. He established a rule in that office, that murders and suicides and other crimes were to be given as little attention as possible, that only a few lines would be necessary to tell of any crime, even of a murder, while great space should be given to the story of industrial interests, to the building of a new mill, or even to the bettering of the conditions of any particular farm. 'There is,' said Mr. Tompkins, in talking with me about the matter, 'more vital interest in the work of a farmer in improving the soil and diversifying his crops than there is in reporting some cutting scrape of negroes or even some murder.' He told his staff that if they wanted sensations to keep a man stationed at the Chicago morgue and let him from day to day telegraph all the sensational stuff they wanted about crimes of every kind which would center around the Chicago morgue, but so far as news is concerned they were to give attention to every improve-

ment made, to every industry established, to every indication of better farming.

"In furthering this work, Mr. Tompkins employed a very gifted woman writer to visit all of the cotton mills in the section tributary to Charlotte and publish every day in the afternoon paper which he also owned, reports from the factory employes. He said it was just as important to tell about the social events among these factory employes as it was for New York papers to report the doings of the 'Four Hundred.' He stressed, through his personal work in visiting these factories and through the work of this good woman editor, the point that the cotton mill operatives should never think of themselves as down-trodden or unfortunate people because of their employment. He sought to build up the morale of the people, to make them proud of the work they were doing, to make them realize they were taking part in world affairs in the manufacture of cotton. Day after day his afternoon paper published pictures of exceptionally good looking young women employed in these cotton mills and he would never accept a photograph for publication unless the operative was dressed up in her best 'Sunday go-to-meeting gown,' so that she might be proud of the appearance she made in the Charlotte paper.

"All of this helped to create a spirit of enthusiasm among the mill operatives and among the people of the Carolinas, for his paper circulated largely in both states. What Henry Grady was to Atlanta, as a moving power in developing the Atlanta spirit and in uniting the Atlanta people for the development of that city—and to that work of Henry Grady is due much of the wonderful progress that Atlanta is still making—D. A. Tompkins was to the industrial interests of the Carolinas and indeed his influence was felt throughout the entire South. In his death the South lost one of its greatest forces for constructive upbuilding and for the betterment of the thought of its people in the things which make for progress and prosperity.

"North Carolina is no better located for furniture making than is Georgia or Alabama, but certain sections of North Carolina are literally alive with furniture factories. High Point, for instance, is shipping furniture to South Africa on one side and to the Pacific Coast on the other. It is making furniture which rivals that of the best made in the United States and is second in quantity only to Grand Rapids. This industry too was built by local capital and local people, for most of the men who have headed the furniture factories of North Carolina have grown up in the community. Many of them have advanced from mechanics to become superintendents and then to become owners of the factories, or the executives of companies organized to build furniture factories. A somewhat similar condition exists as to cotton mills. Many of the most successful cotton mill people in the Carolinas have come right out of the factories.

"There are also other things in connection with this industry which are interesting and important to consider. For the last few years North Carolina has been carrying on the greatest road building campaign in the United States. The state and counties, with small federal aid, have been expending a hundred and twenty million dollars on road building and that state has been expending twenty million dollars or more on construction of universities and colleges and school buildings. In this respect, it has been carrying on a campaign of educational advancement matching that of its highway building. Georgia has not kept pace with North Carolina, either in its road building campaign or in its educational work. North Carolina has found great inspiration in the building of highways and in the enlargement of schools and colleges. All of this has stimulated the whole state and given to it an intensification of interest in every line of development. Moreover these things have attracted more general attention throughout the United States and called

forth more editorial commendation and more news articles during the last two years than have been given to any other state in the South, unless perhaps Florida may have had an equal share of public attention in this respect. South Carolina was lagging behind in the development of cotton mills, but recently it has caught a new step and great enterprises are being developed in that state.

"In connection with hydro-electric development, and most of the mills of the Carolinas are run by electric power, Mr. Duke, a native of North Carolina, who made his vast fortune out of the tobacco business, which in his case had its origin in that state, has expended over \$70,000,000 in hydro-electric development in the Carolinas. It is estimated that his investments there are now worth one hundred million dollars. Thus to Mr. Duke's wonderful far-seeing vision in beginning years ago hydro-electric development on a large scale must be attributed a very large measure of the textile progress of the Carolinas.

"The climatic advantages of Georgia are in many respects very similar to those of the Carolinas. You have the elevation of the Piedmont section and the higher mountain regions. You produce the cotton. You have the water powers which are now being developed to a larger extent than formerly. You have the same kind of Anglo-Saxon white labor that has proved so successful in the Carolina mills, but you have lacked that concentration upon industrial development by the press and the people of the state which made possible the wonderful growth of the textile and other industries in the Carolinas. Too many Georgia papers were for years absorbed in politics. They did not give as much attention as they should have given to industrial potentialities, for the quickening of the interests of the whole people, the building of highways, the betterment of school conditions, in the payment of adequate salaries to school teachers and the maintenance of the Georgia School of Technology on a scale worthy of its superb work. In these respects Georgia fell short of its opportunities.

"For many years after the days of Reconstruction, Georgia led the whole South. It received more editorial commendation and more news in other papers than any other state in the South. It was heralded everywhere as the 'Empire State' of the South. Hundreds of thousands of people came to believe that there was nothing else much in the South except Atlanta and Georgia, but when Georgia concentrated its thought and its energy upon politics it changed the thought of its people from industrial pursuits to hot politics—red hot burning politics that absorbed more time and attention and more thought than anything else in the state.

"This is a diagnosis which I long ago made in my own mind as to why Georgia, and I would include Alabama in the same category, failed with all of its superb advantages to keep in the lead in the South's industrial development and why North Carolina especially stepped into the breach and led the advancing hosts of Southern progress. The spirit of energy, of tireless work, of enthusiasm for material and educational advancement, the wonderful work of highway construction, of educational achievement, of cotton mill and furniture making industries, have quickened the very life blood of the Carolinas, but Georgia and Alabama have the same kind of resources, the same kind of people, the same kind of climate and, in some respects, many mineral advantages which the Carolinas do not possess. It is up to the people of Georgia and Alabama whether they will lag behind in the race or whether they will keep step with the pace North Carolina has set.

"If all the states of the South would hear what has been called 'the music of progress'—'The whirr of the spindle, the roar of the furnace and the throb of the locomotive' to the same extent that North Carolina has heard this music the South would soon become the most prosperous section of all the world."

The Human Element in Business Corporations.

[Robert F. MacArthur, son of the late Rev. Robert Stuart MacArthur, left college and got a job with an oil concern in West Virginia. Later he went at his job with the spirit of work and energy and initiative which very generally conquer. Many said that he could not stand the racket and the kind of life men had to live in the roughness of an oil camp after a different life in New York and at Brown University. Dressed in overalls, carrying his tin bucket, he threw his whole soul into his work. When he had been there about five years he received word from the office of the company in Pittsburgh to come to that city. At the Pittsburgh office he was told that there was an emergency and an opportunity in Oklahoma and the company wanted to send him there and wished to know how soon he would be ready to start. "Immediately" was the reply. "How about your house and your wife?" was the question put to him. "I can go immediately" said he, "and I will wire my wife to sell the house and meet me in Oklahoma." This was done and he left on the next train for Oklahoma. That is the conquering spirit which masters difficulties; that is the spirit which has moved the great men who have achieved things in this world.]

In Oklahoma Mr. MacArthur became general manager of the Barnsdall Oil Company. At the last annual meeting of the Mid-Continent Oil and Gas Association he presented a paper entitled the "Human Elements." By chance a copy of it has come into the hands of the Manufacturers Record. It is so interesting and so illuminating as to the spirit which must be ever present wherever an organization is successful in a large sense that we are printing it, without, however, any knowledge on the part of Mr. MacArthur that the writer has ever heard of any of the facts about him which we are giving.—Editor Manufacturers Record.]

By ROBERT F. MACARTHUR, of Tulsa, Okla., General Manager of Barnsdall Oil Company.

Recently I watched a game of chess and as the game developed the thought came to me that I too was playing a game of chess, and the same is true of many here present. The players I watched moved men of wood from square to square, but we play with men of flesh and blood and spirit—a tremendously interesting game.

As time has gone on I am more and more firmly persuaded that success in the handling of an oil company, or any other organization, is more dependent upon skill in handling men than any other one of the many elements that enter into the problem. This, not to depreciate the importance of the other elements, but to emphasize that of the human element.

Other things being equal, our net profits will be in proportion to the skill we exercise in handling this human element. Officers of an organization are necessary, but no less necessary are the pumpers or other manual laborers. If these men can be imbued with enthusiasm in their work the chance of net profit is greatly increased.

Skill in handling men, to me, consists in being truthful and frank with, and sincere and friendly toward, those with whom one is associated. I believe that there is no better business policy than living our Barnsdall trade mark, a capital B in a square, and read: "Be Square." If we as employers give to the men freely of ourselves, then they will in return give of themselves. It is the law of compensation. We receive as we give. Those of us who manage must first be sold on our organization, then sell that organization, as well as ourselves, to the men. No man can do his best unless he believes in his boss.

We follow the usual oil country procedure in that the majority of our workers are recruited from two sources, the major portion being employed by the local superintendents under whom they will work, while a few are young men of better education, who desire to learn the business, and who are employed by the officers. But we do believe in training the superintendents to use great care in selecting men, and we have done so. Thus far no standardized method has been developed, though we believe that our efforts along this line have resulted in securing a better type of men. By selecting the best roustabouts on the leases, determining their characteristics, physical and mental, we have endeavored to set up an ideal type in the minds of the superintendents. This has resulted in greater care in selecting men and quicker recognition of good and bad qualities in men hired; if a man is not up to our standard, he is the sooner weeded out.

Some very interesting experiments have been conducted in an effort to apply psychological tests to our best field men in an endeavor to set up standards to be employed

with applicants for work; this on the basis that if a simple test could be used by each superintendent in hiring men, we might succeed in decreasing the labor turn-over by an interesting percentage.

As we are firm believers in filling vacancies in the organization from within the organization, we know that too much care cannot be exercised in selecting new men. The same thought is held before the superintendents in appointing foremen. Pick a man who is capable of development; try to gauge a man's ability to grow, as well as to perform his present duties. Believing that the roustabouts and pumpers know better than anyone the characteristics of the roustabouts and pumpers with whom they work, we have tried having them grade each other on qualities desirable in a lease man. At the same time, the foreman and superintendent would grade the same men. An interesting insight was had of a man by the way he graded himself.

In general, it was found that the crowd would select for promotion the same man that would be selected by the superintendent. A development of this was the greater effort on the part of the superintendent to know more intimately his men. There has been an indirect value in much of this work, in that men have become better acquainted on the leases from gathering together of an evening. There is no question that unity has been promoted in the organization by meetings of this character and by the frequent social gatherings we foster.

As suggested, we have made a sincere effort to secure good men, but that is not enough; we must hold them. Labor turn-over is a very real expense. It is the opinion of the writer that about 90 per cent of the lease men do not truly aspire to promotion, since they do not make the effort to secure it. These are men who do what they are told to do. Our aim is to find men who will do it well. This considerable majority is interested in salary first, and secondly in permanency of position.

Probably the next interest is the education and amusement of their families. An exception to this is found in young men ambitious for promotion, since they consider wages of secondary importance to opportunities to learn the business. We have met these two principal desires of the men by paying the wages current in the local field and by holding the men as permanent as possible, considering the varying conditions under which a producing company operates, always holding the skeleton of the organization intact, and if the force must be reduced, dispensing with those who can best endure loss of wages, this being determined by a conscientious investigation of each case.

Believing firmly that other things being equal, a man with

a happy home is the best worker, we have provided comfortable houses for our married men, furnished good water, planted trees, and tried in various ways to cause a man to become attached to his home. We would make our men happy, for we believe that no man can be fully efficient save as he is happy. We cater to the wife, as she can do more to prevent labor turnover than anyone else. It has been said that when a man marries a girl he marries her whole family. When you hire a man, you hire his wife. There have been times when we would not hire a man because of his wife, and have had to discharge others because of the trouble their wives made in the camps. I have much sympathy for the wife of the isolated field worker. It is probable that more than one man here present took his bride to some lonely spot where he happened to be working at the time of his marriage. The writer did this very thing. If it were not for the downright courage of some of these women, more than one man would fail and more than one lease be handled inefficiently.

To further aid, we have contributed to the erection of school houses and churches, and have furnished transportation for children from our camp to school. Our club house at Barnsdall has been an amusement center for our people who live in that general district.

To secure and hold the best type of men, in addition to the inducements mentioned, we insure all after they have been with us six months, under a group policy, increasing the amount year by year. We go further in this regard and carry a policy on their wives. This, however, does not increase with time.

At Christmas we remember each man in proportion to his years of service—this especially in remembrance of Mr. Barnsdall. Some years ago an increase in the price of oil occurred just before Christmas, Mr. Barnsdall deciding to share his added profit with the men. This Christmas bonus has been continued even though there were not always added profits to distribute.

Reference has been made to the 90 per cent of men who do what they are told to do. The manager's special interest lies with the 10 per cent who do more than they are told to do. They are the ones who will carry on the organization. It is the practice of the writer to place the names of this minority on a special list, which gives their history and experience. Almost without exception promotions are made from this list. A man of this type is not with the organization many months till he is recognized and reported in by his superintendent.

In training our men no set course is used. Jobs are not made for them—rather, the man best suited is placed in the open position, but opportunity is given to each promising individual to learn the different branches of the work. By training your own man there is small chance that he will gain preferment save as he is fundamentally right. Not only can you gauge his manual dexterity, but also determine something of his character. Further, you learn whether he is of the organization type or too individualistic to work satisfactorily with others. A man will tell me of the possibilities of making money by conducting some operation in a certain way. From his conversation it is evident he is thinking in terms of himself. Another describes the same procedure and expatiates on the opportunity for the company. The first is of limited value to the organization, since he is too individualistic, while the second is a joy to the manager's heart, for he knows that that man will always help to build up the organization.

Another value in training our own men is the opportunity to sell them on our policies, to convince them that we are conducting the work to the best advantage. It is freely granted that no manager can hope to directly keep in touch with many men, but if he has filled the responsible positions

with men of character, and sold them on his policies, indirectly he accomplishes this very thing. The influence of one man can thus be far-reaching.

In my effort to keep personal touch, it has been my practice to hold monthly meetings of the district superintendents and invite as many of the foremen as can be spared to be present—this since each foreman is a prospective superintendent. With us meet representatives if not the heads of the departments of the office. Problems of mutual interest are settled or discussed and assigned to an individual or committee, who report at the next meeting. Representatives of different departments talk on their respective departments and show wherein co-operation from others will benefit the organization as a whole. There are talks scheduled for future meetings on the internal combustion engine, lubrication, refining of petroleum, the manufacture of natural gasoline and geology. The men who attend these meetings are the most promising material in the organization. As they grow their responsibilities are increased, giving them at all times all they can possibly carry, for it is my firm conviction that responsibility has a wonderful power to inspire and develop men. With this responsibility must go authority consonant with the responsibility. Under such stimuli good men will grow splendidly. From time to time you will discover that some man has about reached his limit, but it is men of this type that form the backbone of most organizations. It is they who give poise to the whole.

Naturally, one is watching among the 10 per cent men for outstanding individuals. No one characteristic interests me more than this: an absorbing interest in the work without reference to the pay that may result. In return for such service it is our bounden duty to pay such a man liberally. Putting his whole self into the work as he does, to a degree cuts him off from opportunities to secure a larger salary elsewhere. Certainly we should not take advantage of his whole-hearted, loyal service and pay him less than he could reasonably expect to receive from some other concern. No man can indefinitely give his whole self without liberal compensation. I feel that it is not fair to put a good worker in a position of bargaining for his salary. If we as employers do not pay liberally we cannot reasonably expect these high-grade men to give of themselves without limit. But salary alone will not hold the best type of man. He must receive just treatment and feel that there is a future for his organization and himself in that organization.

In studying our men it was found that some were good foremen but lacked in education, so that while otherwise eligible for the position of district superintendent, they could not be promoted. We are correcting this condition by enrolling them in the Y. M. C. A. Correspondence School for a simple English course, consisting of spelling, arithmetic, letter writing, etc.

It is my belief that we all accomplish more if we endeavor to attain an ideal, therefore, I have constantly kept before our field men such a thought. In an effort to reach them personally, I wrote the following sentence in longhand, signed it, and had it photographically enlarged, reproduced it in quantity and had it posted in the buildings about the field frequented by our men. I wrote: "THE MAXIMUM PRODUCTION FROM EACH WELL EACH DAY AT THE MINIMUM COST," and explained that no one of the four components could be dropped and our ideal attained.

Even though we do not attempt to state in percentage how successful we have been in reducing labor turn-over and securing from our men the maximum of loyal service, yet we are possessed of a moral certainty that the effort is well worth while.

We hear the expression "heartless corporation," but a corporation has a heart, and its heart or personality is that of the individuals who devise its policies and interpret them

to its employes and the public. Times have changed; we must change with the times, and if possible keep a jump ahead of the times. No longer does the president of a public utility say "The public be damned!" In the early days the head of a concern dealt personally with his employes and received in return a personal loyalty. With changing conditions larger and larger aggregations of capital were found to be advantageous in the conduct of business. It became impossible to personally know all the workmen, or even a small part of them. The result was that many business leaders came to look upon their men as but pawns on the business chess-board, and treated with no more consideration. The large aggregation of capital has come to stay; it has justified its existence; but the best of the former method of individual producing, the man to man contact, is being adapted to corporation use.

We will make few mistakes in dealing with employes if we remember a saying of a great teacher, who some nineteen hundred years ago instructed: "Therefore, all things whatsoever ye would that men should do to you, do you even so to them."

Negro Migration and the Future of Cotton.

By C. A. WHITTLE, Editorial Manager, Soil Improvement Committee, Southern Fertilizer Association.

Cotton growing in the southern United States has been largely the work of negro labor. Now that negroes have been and are still migrating North in a steady stream in answer to the industrial demand, what is going to be the effect on cotton?

If twenty-five to thirty cent cotton does not halt the negro movement North, what will stop it? Evidently the price of cotton is not affecting the movement of the negro to new fields of labor. The reasons are elsewhere.

The heavy toll of negro labor, which the southeast especially has been paying to prosperous industrialism of the North, is boll weevil toll more than anything else, the period of boll weevil demoralization having been in evidence in that section during the past three years. In many instances negroes have been willing to stay on the farm but the farmer, hard hit by the deflation, or alarmed unduly by the weevil, did not offer to finance the negro to make another crop. The consequence was that it was a case of following the labor agent or starve.

But not all negroes who left the farm for industrial or public works went North. Some found work at the new saw mills which have sprung up in every community, and some have gone to work on new road construction.

The little saw mill came to the relief of the hard-up cotton farmer, who with the disastrous invasion of the boll weevil and the deflation overwhelming him at one and the same time, would have suffered a worse disaster but for the new growth in the wood lot that the saw mill had not invaded for several years. The timber that has been cut is shamefully small and the limit of the saw mill's operation is short, so that there may be expected from the local saw mills a release of farm labor before a great while.

Old men and children constitute the cotton labor supply to a large extent in the eastern cotton belt. It is the young men and young women who are venturing North. This means fewer acres per man power.

In the face of this alarming departure of labor from the cotton belt how is it that there should be an increase in cotton acreage reported? The answer is that the higher price of cotton has led the farmer to sacrifice to King Cotton some of the acreage devoted to other crops, which is poor business. In addition the cotton farmer has gone the limit, and perhaps overreached in planting, his ability to cultivate properly. Doubtless some will follow the footsteps of others who last year planted on a gamble with the boll weevil, and when the

weevil began to win, abandoned the field and went to Detroit, Cleveland, Toledo, Chicago and other industrial centers to get a job, which they had no trouble to find.

It would seem, therefore, that some profound and far reaching influences are at work in which cotton production is involved. It seems obvious that the time is approaching when cotton will not be the product of the poorest paid labor in the United States. Abundant negro labor, ill clad, poorly nourished, inexpensively housed, content with a beggarly hand to mouth existence, and competing as beggars with beggars, are things that are becoming dissociated with cotton production.

When scarcity of man labor is felt certain agricultural tendencies naturally develop. Where the lands are fertile, as in the days of the virgin soil, the individual found new lands, or increased the acreage under his care. But virgin soils are no longer available and the expansion of acreage is not possible since farmers generally have been practicing extensive agriculture to the limit.

Therefore, labor shortage in cotton production can be met economically only by increasing the acre yields. Other forces that produce crop yields are now cheaper than labor. To make the limited labor go furthest in creating crop yields, involves the larger use of such producing forces as good, high yielding seed, improved machinery to more thoroughly cultivate the land, and more liberal fertilization, all of which would operate with a minimum amount of labor to increase the acre yields. Cotton production in the future means making one acre produce what two acres have been producing in the past. Students of cotton production place this within easy range of possibility. Therefore, it is possible for the South to meet the world's demands for cotton with possibly half the man power heretofore bestowed in producing an acre of cotton and that too with greater profit to the farmer.

The greatest difficulty in cotton growing in the past has been that every cotton farmer was in sharp competition with cheap, very cheap, labor. Today the labor competition is decreasing and there is greater premium on intelligence and skill in cotton production. There will be less "distress" cotton dumped on the market as a consequence of the migration of negro labor, consequently there will be a more orderly marketing and more stable, if not better, average prices. Indeed, some believe that the thinning out of negro labor will markedly improve the marketing situation for the cotton farmer.

It is not without foundation for argument to say that cotton production has been overmanned in the past. Some such feeling seems to be in evidence among cotton growers as revealed by their lack of any great concern about the negro exodus.

\$1,000,000 Gypsum Plant at Sweetwater.

Sweetwater, Tex., July 17—[Special.]—According to G. W. Rathgens, assistant chief engineer of the United States Gypsum Company of Chicago, the plant which that company will build here for the manufacture of plaster of paris, cement and other gypsum products will cost approximately \$1,000,000. The company has purchased a large acreage of gypsum deposits, all situated within convenient distance of the site of the proposed plant, and a railway system will be built for transportation of the raw material, it was stated.

Architects for \$500,000 St. Louis Maternity Hospital.

St. Louis, Mo., July 14—[Special.]—La Beaume & Klein of St. Louis have been selected as the architects for the proposed \$500,000 building to be erected here by the St. Louis Maternity Hospital, Mrs. Benoist Carton, president of the board. The structure will be eight stories high and will be located on Kings highway north of the St. Louis Children's Hospital. The new hospital will be affiliated with the Washington University School of Medicine.

Tulsa's \$6,800,000 Water Project.

TO CARRY WATER FIFTY-FIVE MILES BY GRAVITY—BIG DAM WILL IMPOUND TWO YEARS SUPPLY—INTERESTING DETAILS OF MANUFACTURE AND BUILDING OF CONCRETE PIPE.

By C. A. BORDER, Tulsa.

The name Tulsa has so long been associated with oil and gasoline that it is somewhat of a surprise to hear of the Oklahoma metropolis being connected with what is probably the largest per capita bond issue ever voted for the purpose of a new water supply.

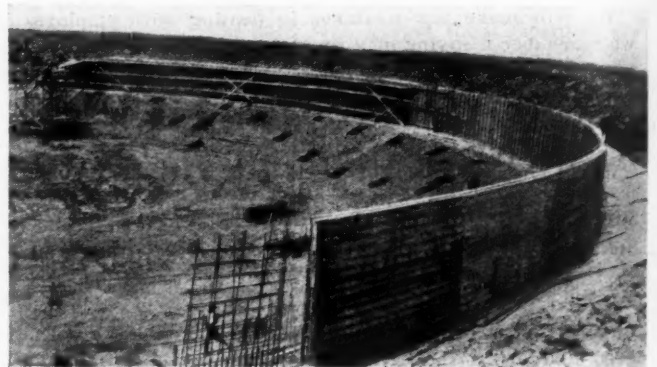
The Tulsa-Spavinaw water project consists of a lake six miles long, backed up by a dam fifty-five feet high and thirty-five hundred feet long in the Ozark Mountains. From this dam the water will flow by gravity fifty-four and one-half miles to the Mohawk Reservoir, which is five miles from the city of Tulsa. It will flow through reinforced concrete pipe, twenty-eight miles of which will be sixty inches in diameter, and twenty-four miles fifty-four inches in diameter. This pipe passes through tunnels and under streams, and is estimated to deliver twenty-five million gallons of water per day to the Mohawk Reservoir. From the reservoir the water will be pumped five miles and raised three hundred and fifty feet to a concrete covered high pressure reservoir from which it will flow by gravity into the city mains.

This seems an ambitious program for a city less than twenty years of age. It is, yet it is in line with Tulsa's growth. In 1890 there was no Tulsa. In 1920 it was a city of 72,000 and this year the Bureau of the Census estimated the population at 102,018.

It was not possible for the water system to keep pace with the growth of the city, and bottled water, at twenty-five cents for five gallons, was used in enormous quantities. Naturally Tulsa was not satisfied with its water plant. In November, 1921, \$6,800,000 was voted to get the best supply possible.

of 300,000. It was merely a question of the possibility of bringing it fifty-five miles.

Separate contracts were let for—(1) Sixty mile telephone line; (2) clearing Spavinaw Lake site; (3) Spavinaw Dam; (4) twenty-eight miles sixty-inch conduit, from the dam to Tunnel; (5) Tiawah Tunnel; (6) twenty-four miles of fifty-four inch conduit, from Tiawah Tunnel to Mohawk Reservoir;



SECTION OF HIGH PRESSURE RESERVOIR.

(7) Mohawk Reservoir; (8) cast iron pipe; (9) valves; (10) laying cast iron pipe; (11) high pressure reservoir.

The dam is located on the site of the historic town of Spavinaw, which has been moved bodily to make way for the project. The water largely comes from springs and will



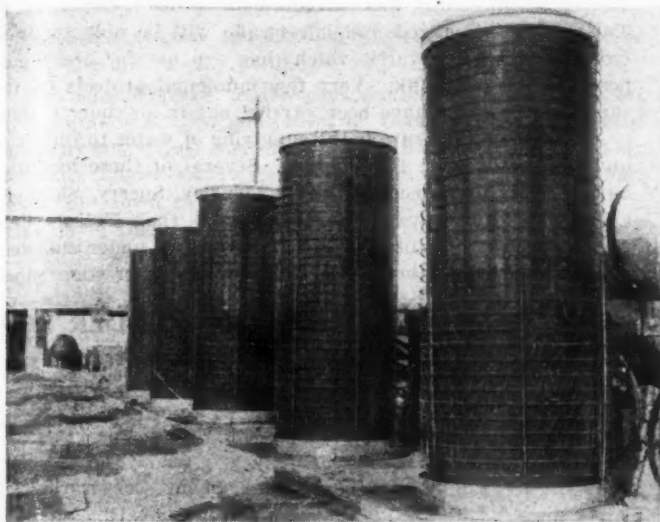
EARLY STAGES OF CONSTRUCTION WORK ON SPAVINAW DAM.

Before the final bond issue was presented an issue of \$25,000 was voted for surveys and investigations to make certain that the feat was possible and the sum of money required to do it. Eminent engineers, including General Goethals, were secured for this task.

For several years citizens had been saying that fifty-five miles to the northeast, in the Ozark Mountains, there was a beautiful stream of soft, clear, sparkling water, good to drink and a perfect water for industrial purposes—water high enough in quality and sufficient in quantity to satisfy a city

be backed into a lake six miles long and about two miles wide at the widest place. The big dam will be fifty-five feet high and thirty-five hundred feet long and will impound enough water to supply the present city of Tulsa two years. The dam will raise the water one hundred feet higher than the reservoir at Mohawk. The recent legislature passed a bill enabling the city to condemn land within six hundred and sixty feet of the high water mark of the lake to protect the water.

It is quite probable that this lake will furnish eastern

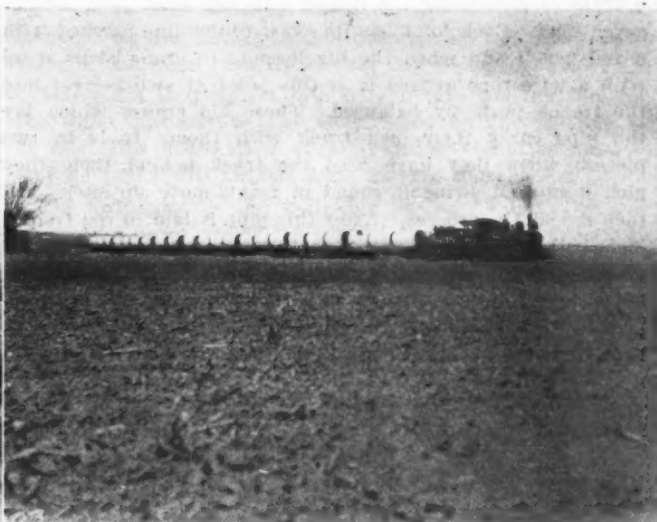


FORMS AND FIRST SET OF REINFORCEMENT—
VERDIGRIS PLANT.

Oklahoma with its most popular playground. At present numerous clubs and cottages are constructed and an excellent auto road leads to this delightful vacation point.

As stated, the water will be carried from the dam to Tiawah Tunnel through twenty-eight miles of sixty-inch conduit and from the tunnel to Mohawk Reservoir by a fifty-four inch line. At Verdigris River the high steep banks make necessary the construction of a seven hundred foot tunnel sixty feet beneath the bed of the river.

The concrete pipe is being manufactured at Verdigris, Oklahoma, which last October was merely a station on the Frisco Railroad and three or four houses huddled on the prairie. Today an immense concrete pipe plant covers forty-five acres



TRAIN LOAD OF LOCK JOINT PIPE ENROUTE FROM
VERDIGRIS PLANT TO THE LINE.

room town has sprung up about the plant, and a constant stream of all sorts and kinds of people flow to and from this village.

The pipe is made in twelve foot lengths about six inches thick and is cast in steel molds set on end. The plant makes ninety-six of these lengths every twenty-four hours, by working two eight-hour shifts. The gantry cranes are the giants which do the work. They carry the concrete, pour it, lift the molds from the pipe, lift the pipe itself onto the racks, and re-set the molds for the next pouring. After the pipe has been poured it is covered with a canvas jacket and is steamed for three days, although the forms are removed at the end of the first day.



EXCAVATING DITCH AND LAYING PIPE.

along the railroad, with four complete pipe-making units, the cement sheds, the concrete mixers, the mountains of sand and stone handled by giant locomotive cranes, the interlacing railroad tracks and tracks for the four big double gantry cranes, the racks for drying the pipe, the machine shop, galvanizing plant, the yard where the reinforcing cages are made and the bars welded, together with the dormitories, commissary house where three hundred men eat at once, and the numerous offices. Off on the hill are a dozen little bungalows built for the superintendents. There is a sewage system, a telephone system and a power plant for generating electricity, and a complete water system for pumping the water from the Verdigris River and purifying it. A mush-



COVERING THE PIPE LINE.

The pipes are further cured by lying on the racks about ten days, before they are loaded on standard railroad flat cars and hauled in train lengths of a dozen cars to the trench. This pipe is made of very rich concrete, heavily reinforced with steel, and it is manufactured with such care that a train load of it fairly glistens in the sun because of its smooth white surface. A railroad of standard gauge runs all the way along the fifty-five miles of pipe line. One of the first tasks of this project was the construction of this railroad and the telephone line which runs beside it and which connects the engineers with all parts of the work.

The handling of the pipe is so carefully planned and organized that it is the work of a very few minutes to unload

a train of pipe along the trench although each joint weighs seven tons. Each joint has its exact center line marked with a red pencil and when the big locomotive crane picks it up with a wire rope around it at this point, it swings over into the trench perfectly balanced. These big cranes which lay the pipe carry their own track with them. It is in two pieces; when they have used the track behind them they pick it up and swing it round in front, move up on it, and then repeat the process. After this pipe is laid in the trench, it is calked much as any pipe is, only this conduit is big enough so that the men can almost walk upright in it, and makes one think of miners with their caps lighted in front.

At the Tulsa end of the pipe line is Mohawk Reservoir, made possible by the peculiar fact that this district is lower



TUNNEL UNDER VERDIGRIS RIVER SHOWING CEMENT BACKED AROUND PIPE.

than the city itself, thus making a greater difference in elevation between Spavinaw and Tulsa than would have been possible if the line had come straight into the city. This reservoir will hold a half billion gallons of water, or a sixty days' supply, enough to tide over any possible break in the line or any other unforeseen accident. In order to build this reservoir a stream has been diverted from its own bed and a hundred acres stripped and leveled. On the banks of this reservoir will be built a thoroughly modern pumping plant which will lift the water 350 feet and pump it five miles to a concrete covered reservoir on a hill just north of the city, from which it will flow by gravity into the city mains.

In April, 1924, only eighteen months from the time the

first shovelful of dirt was moved on this project, the dream of Tulsa will be realized and her people will be able to draw from their faucets water which they can use for every purpose, even for a drink. Very few municipal projects on the same scale as this have been carried out in so short a time.

An interesting feature is the supplying of water to the cities and towns all along the conduit. Several of these localities have already petitioned for water. Turley, Sperry, Skiatook, Hollinsville, and Owasso are so located that Tulsa's high pressure reservoir will give them their water under sufficient pressure to obviate the need of pumping plants or stand-pipes.

TWO LARGE POWER STATIONS UNDER CONSTRUCTION IN OKLAHOMA.

Byllesby Interests Building One Plant Near Muskogee, and Another on Horseshoe Lake East of Oklahoma City.

Byllesby Engineering and Management Corporation,
Chicago, Ill., July 6.

Editor Manufacturers Record:

We are constructing at present two power stations in Oklahoma. One of these plants is being built for the Oklahoma General Power Company at a point about four miles east of Muskogee on the east bank of the Arkansas river. The primary installation will consist of one 7500 and one 15,000 KW. G. E. turbo generating unit, each equipped with Worthington surface condensing equipment.

There will be six 1022 H. P. Edge Moor water tube boilers equipped with Westinghouse underfeed stokers. The furnaces are designed to burn oil in the event of coal shortages, or under any other conditions when the burning of oil may be particularly desirable, and the boilers will be equipped with oil burners. In connection with this arrangement the plant is provided with two 55,000 barrel oil storage tanks which with the output contemplated for the first year of operation will store about six months supply of oil.

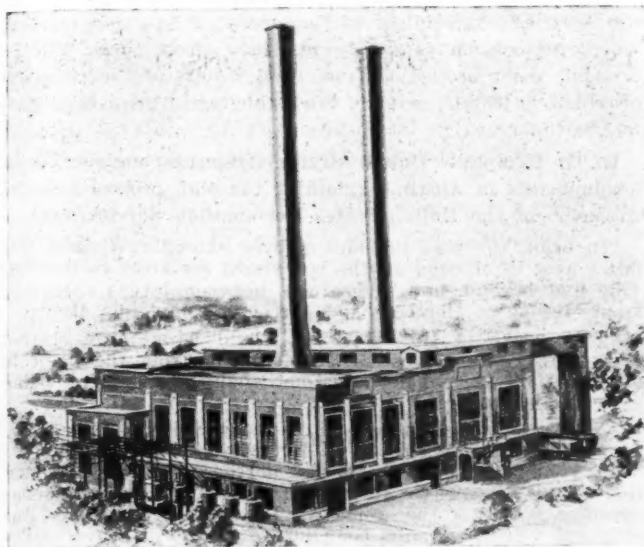
Switching equipment and switchboards are of Westinghouse manufacture and of standard modern design. The plant will be equipped with duplicate three-unit exciter sets. Power will be distributed from the plant over two 63,000 volt lines, one of which extends easterly to Fort Smith, while the other runs westerly to Sapulpa and Drumright and thence connects with the system of the Oklahoma Gas and Electric



A RECENT PHOTOGRAPH OF THE SKY-LINE OF TULSA, OKLA., SHOWING SOMETHING OF THE PROGRESSIVE SPIRIT OF BUSINESS

Company on the western side of the state. Local circuits, operating at 13,000 and 2300 volts, will transmit power to Muskogee and nearby points.

The second plant under construction is being built for the Oklahoma Gas and Electric Company. It is located about twenty miles east of Oklahoma City on a natural body of water known as Horseshoe Lake, about a mile and a half from the town of Harrah. The supply of water for this lake is by means of a natural overflow channel from the



HARRAH POWER STATION.

Under construction at Harrah Lake, 23 miles east of Oklahoma City, for the Oklahoma Gas & Electric Co. Initial capacity 20,000 H. P. North Canadian river. As the name implies, the lake is approximately the shape of a horseshoe and the plant will be located between the two ends. Condensing water will be taken from one end of the lake and circulated through its length, a distance of about two miles, to the other end, and thence returned to the plant.

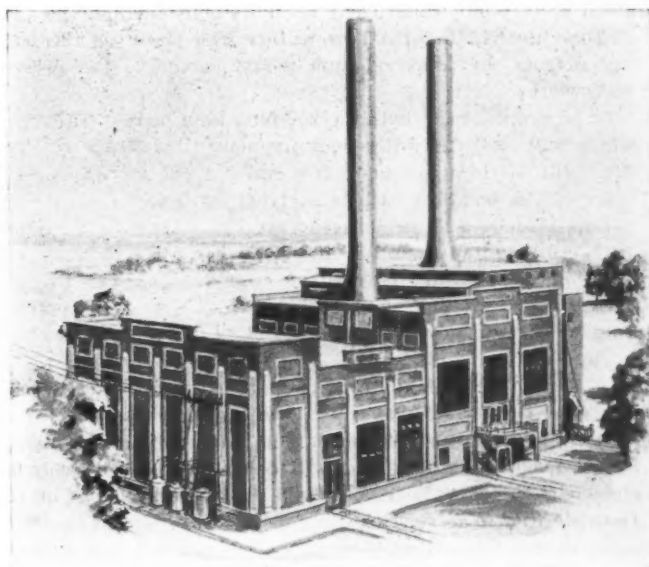
The installation now in progress comprises one 15,000 KW. Westinghouse turbine with Worthington surface condensing equipment and four 1008 H. P. EdgeMoor boilers equipped with Westinghouse underfeed stokers. The substructure,

water-ways and building, however, are designed and constructed for the subsequent installation of additional equipment of the same capacity as that now being installed.

The plant is designed primarily to use coal as fuel, but the boiler furnaces will be constructed for the possible use of oil. The installation of oil burning equipment and oil storage tanks will not be made at this time.

The switchboards and switching equipment and other electrical auxiliaries are of the general character and description as those for the plant of the Oklahoma Power Company at Muskogee.

The plant will be connected with Oklahoma City by 13,000 and 63,000 volt lines and will connect at that point with the present 63,000 volt transmission system of the company. A 63,000 volt line will likewise extend southeasterly to Shawnee,



RIVER BANK POWER STATION.

Under construction near Muskogee, for Oklahoma General Power Co. Initial capacity, 30,000 H. P.

where it will connect with similar lines, serving another group of the company's properties.

The turbines at the Muskogee plant are designed for normal



THE CITY AS MANIFESTED IN ITS IMPRESSIVE SKY-SCRAPERS, AND IN THE GENERAL METROPOLITAN ASPECT OF THE DISTRICT.

operation at 225 pounds pressure at the throttle with 250 degrees superheat. The Harrah turbine will operate on 285 pounds pressure at the throttle with 250 degrees superheat.

The above is a brief outline of the particular features involved in the design of the two plants mentioned.

F. H. LANE,
Manager of Engineering and Construction.

\$8,000,000 Power Development on Dix River—Deal Involves Construction of New Waterworks Plant by City of Danville.

Danville, Ky., July 17—[Special.]—Negotiations have been closed here by the Midwest Utilities Co. of Chicago, through the Dix River Power Co., looking toward the construction of a hydro-electric power plant on the Dix River to cost about \$8,000,000. Contingent upon its construction, the City of Danville will build a new waterworks plant, as the back water from the proposed dam would submerge the present waterworks.

It is proposed to build a 250-foot dam across the river which will send the water back for more than 30 miles. The dam will be located about two miles from the converging point of the Kentucky River at High Bridge.

Two bridges will be built across the dam, one at Kings Mills crossing and the other near Danville. The development is designed to serve the territory from Norton, Va., through Lancaster, Danville, Harrodsburg, Lexington, Frankfort, Louisville, thence to Indianapolis and as far west as Keokuk, Ia. and back to Chicago.

In connection with the construction of the new waterworks the city is having plans prepared by Peares, Greeley & Hansen, engineers of Chicago. The plant will have a capacity of 4,000,000 gallons and will be operated exclusively by electricity. Henry E. Woolfolk is the superintendent of the Danville City Waterworks.

Fund to Be Raised for Georgia Association's Program of Diversification.

Atlanta, Ga., July 9—[Special.]—A fund of \$150,000 will be raised by a committee of Georgia business men, headed by W. O. Foote, of Atlanta, to finance the Georgia Association's program of "the cow, the hog and the hen" throughout the state. It was announced today by officers of the Georgia Association.

"Georgia business men have been giving the farmers of the state free advice and free sympathy long enough," said Mr. Foote, in accepting the chairmanship of the committee.

"The time has come when we must take off our coats and go to work in earnest.

"Until the farmers in Georgia are enabled to put themselves on a sound footing, the state will not rest upon any solid financial foundation.

"The program of the Georgia Association in putting cows, hogs and hens on every farm in the state is not an experiment. It has been tried, not only in Turner county, but in other counties as well, and found successful. It is the only thing that will save the day for Georgia agriculture—and it is up to the business men of the state to get together and help the association put it over.

"The Georgia Association must be given a business administration by business men if it is to succeed. Business must cooperate with agriculture if the industries of the state are to continue to grow and prosper."

In short, the business men of Georgia are beginning to realize as never before the importance of farming as the basic industry upon which all other industries rest. The farmer has ceased to become the scapegoat and become the center of interest for industry and business.

Comprehensive Plans for Levee System on Rio Grande—Would Protect 340,000 Acres.

Austin, Tex., July 14—[Special.]—Plans are being considered for the construction of a system of levees to control the flood waters of the Rio Grande along its lower course. One of the proposed methods involves the expenditure of \$12,000,000 and the other brings the cost down to about \$4,000,000. Engineers of the United States Reclamation Service made surveys for and recommended the \$12,000,000 project while the lesser plan was devised and its adoption urged by the American Association of Engineers. It is explained that whichever system is finally put into effect there will be brought under protection from flood waters of the river approximately 340,000 acres of land, ranging in price from \$200 to \$300 an acre.

R. G. Hemphill, United States irrigation engineer, with headquarters in Austin, explaining the plan proposed by the engineers of the United States Reclamation Service, said:

"In brief, the plan includes a levee extending from a few miles west of Mission all the way down the river to Brownsville and beyond, and a floodway between levees extending from Mission to Mercedes and northeast to Laguna Madre.

"The intake of this floodway would be a large cleared area near Penitas, west of Mission, and from the point to Mercedes, the normal flood channel would be used after being cleared and enlarged.

"At Mercedes there would be diversion works to turn 30,000 second-feet into the Arroyo Colorado and the remaining 100,000 second-feet would be carried northeast in the continuation of the floodway. Instead of following the Campacuas overflow outlet of the American Rio Grande Company, the proposed channel would bear off to the east a few miles north of Mercedes.

"To make this channel carry the amount of water planned for it, it would be necessary to do away with some of the canal structures now existing, chiefly the flumes of the Mission canal over the Sardinias Resaca and the flume of the American Rio Grande Company over Campacuas Lake. The cost of the proposed work was estimated at \$12,600,000. One of the chief items in the make-up of this estimate is an item of nearly \$3,000,000 for right of way."

Telephoning Now on Power Transmission Lines.

Telephoning over power transmission lines is now an established fact, according to an announcement made by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., which says that executives of large power companies from various sections of the United States formally opened a new high frequency automatic telephone system which has just been installed on the lines of the Consumers Power Co., of Michigan. Everyone present marveled at the extreme clearness with which conversation could be conducted with a power plant 50 miles away.

Westinghouse engineers installed the system, which at present has only two sets completed, one at Jackson and the other at Battle Creek, Mich., but four similar sets will also be installed, and when this is done there will be 600 miles of transmission line utilized for telephone service. When conversation is conducted the two voices pass each other carried on different wave lengths, going through different transmitting radio units, but the system is controlled through two ordinary telephones. There is an apparatus which neutralizes effects of the powerful currents on the lines. It is further stated that thunderstorms do not affect the lines and that should a line be broken the impulses jump the gaps and conversation continues even when several miles of line are down.

Announcement has been made by Robert E. Putnam, president of the Louisiana State Rice Milling Co., that the firm will move its main offices from New Orleans to Shreveport, La.

Construction Under Way on Texas Sugar Refinery.

COMPLETION PLANNED BY JANUARY, 1924—PLANT TO HAVE CAPACITY OF 1,000,000 POUNDS OF REFINED SUGAR DAILY.

[Special Correspondence Manufacturers Record.]

Texas City, Tex., July 12.

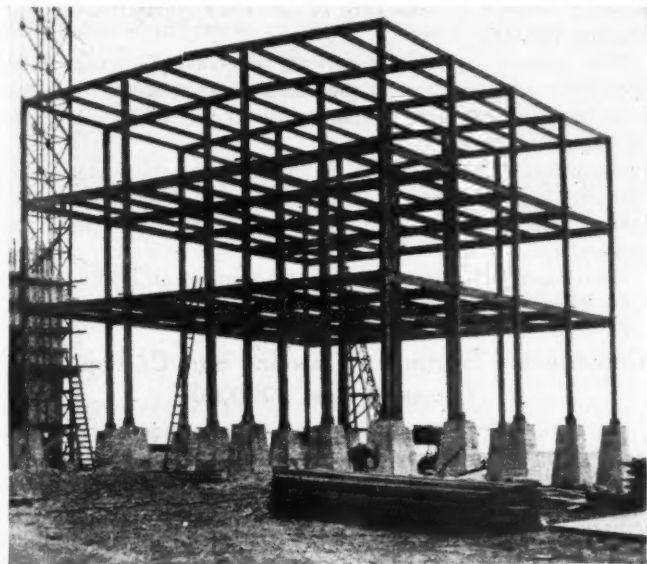
Construction is actively under way here on the plant of the Texas Sugar Refining Co. The plant will consist of twelve brick and steel buildings resting upon concrete and piling foundations, and is to have a capacity of 1,000,000 pounds of refined sugar a day, with provisions for expanding the capacity to 1,500,000 pounds.

The company was organized with a capital of \$5,500,000, and vice-president H. B. Moore declared that not less than \$1,500,000 working capital would be available when construction started.

Work on the plant is being rushed in order to have it ready to begin operation in January, 1924, and approximately half of the 12,000 piles required for the foundations have been driven. The foundation and steel frame of the three-story office building has been completed, and the pouring of concrete foundations for the eight-story char filter house is now under way. The piling for two more five-story units of the plant

imported. A survey of the federal harbor extension required by the plant has recently been made. In order to conform with a local ordinance, the lower floors of all the buildings will be elevated 14 feet above mean low tide, and the site filled to that level. Filling will be done with spoil from dredging, and an area of about four blocks will be thus raised 14 feet or more. Concrete sheet piling for bulkheading is being manufactured on the site.

E. H. Thomas is engineer in charge of construction for the refinery company, while Emott Buel is chief engineer for



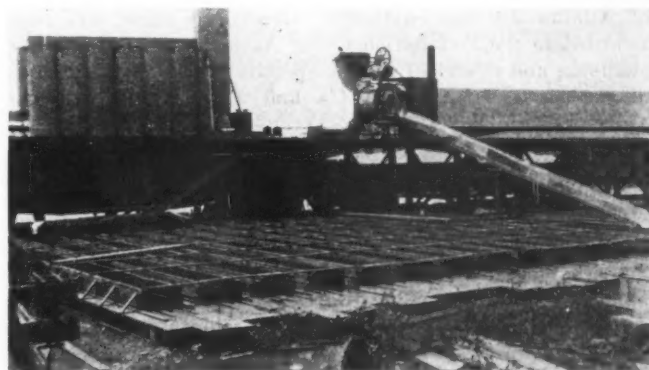
VIEW SHOWING CHARACTER OF CONSTRUCTION OF OFFICE BUILDING.

has been driven, and their foundations will be poured as soon as the char filter house is finished. Steel erection will follow the concrete work, and brick laying will begin as soon as the steel workers get out of the way. Approximately three train loads of material have arrived.

Construction work is being done by John Monks & Sons of New York, with William Moore Co. of Texas City and Beaumont doing the pile driving under a sub-contract.

The total floor space of all the building will be approximately 400,000 square feet. Ground to be covered by buildings, which will be one, three, five, and eight-story heights, will be 90,000 square feet. This does not include space between buildings or space that will be occupied by the special wharf to be constructed for the plant.

The refinery is being built up to the harbor line at Texas City, where there is thirty feet of water, and vessels bringing crude sugar from the West Indies can come directly to the doors of the crude sugar warehouse of the plant. Customs officials of the Galveston district have requested that the government install automatic scales at a cost of \$25,000 on the refinery wharf to facilitate weighing sugar as it is

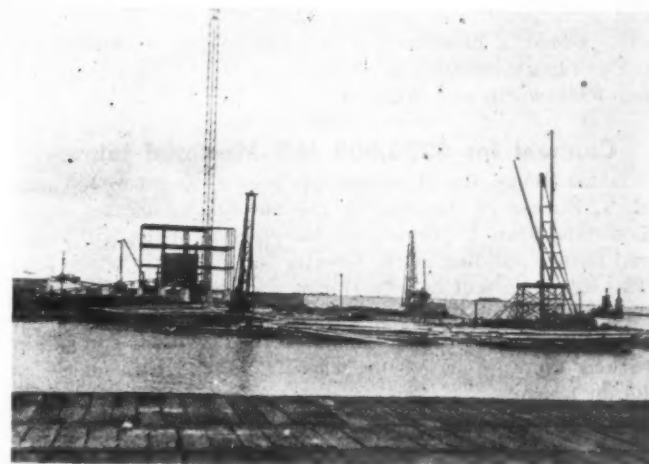


FORMS SET FOR POURING CONCRETE SHEET PILES.

John Monks & Sons, with Paul Fager superintendent of construction.

It is estimated that 400 men will be employed in the refinery, while customs officials, longshoremen, etc., who will handle the discharge of sugar cargoes brought for the plant will bring the total to 600. Estimates are that during the sugar season the plant will consume two ship loads of sugar each week.

Offices of the Texas Sugar Refining Co. are maintained at Texas City, and it has been stated that Texas City will be



THREE PILE DRIVERS WORKING ON FOUNDATION AND CONCRETE DISTRIBUTION TOWERS.

sales and distribution headquarters after the refinery gets into operations. Heads of various departments of the plant have been secured and are under contract to begin work on January 1, 1924.

The refinery site consists of thirty acres and was secured for a consideration of \$100,000. In order to make room for the construction twenty-four dwellings, a two-story hotel,

two store buildings and a cafe building were moved off the site.

Structural steel for the plant is being furnished by the Ingalls Iron Works of Birmingham, Ala., while the Joubert & Goslin Machinery Co. of the same city have the contract for machine equipment. Twenty-nine cars of the structural steel have been delivered.

Bon Air-Vanderbilt Hotel's \$300,000 Addition.

Augusta, Ga., July 14—[Special.]—Additional details are available in connection with the \$300,000 addition to be erected here for the Bon-Air-Vanderbilt Hotel by the Bon-Air-Vanderbilt Corporation, W. H. Marshall, New York, president. The structure will be 45 by 200 feet, seven stories, of reinforced concrete and hollow fireproof tile, with cement finished floors, metal ceilings, metal doors and ventilators. It will contain 105 rooms and baths.

Willis Irvin of Augusta is the architect and Spiker & Lose of Atlanta are the engineers. General contract has been awarded to the Foundation Co. of Atlanta and contracts for plumbing and electrical work respectively have been awarded to the T. G. Brittingham Co. and J. A. Young, both of Augusta.

Work Begun on Modern Type of Sunday School Building at Atlanta.

Atlanta, Ga.—Work has begun on the construction of the Sunday School building to be erected here by the Druid Hills Methodist Church at Blue Ridge and Seminole avenues at a cost of \$160,000. The building will contain separate class rooms for all classes and a separate auditorium for each department. It will be equipped with a gymnasium and shower baths and will have a roof garden to seat 1000.

Plans have been prepared by Hentz, Reid & Adler associated with Ivey & Cook, both of Atlanta. W. D. Thomson is superintendent of the Sunday School.

Contract Awarded for Memphis Cotton Exchange—Twelve-Story Building to Cost \$700,000.

Memphis, Tenn.—Contract has been awarded to Kaucher-Hodges & Co. of this city to erect the new building for the Memphis Cotton Exchange. The structure will be 12 stories high, 70 by 100 feet, of reinforced concrete faced with brick and terra cotta, and will cost about \$700,000, including the site. Mahan & Broadwell of Memphis are the architects and the building committee is composed of Henry Thompson, Sidney Farnsworth and others.

Contract for \$250,000 Hill Memorial Library.

Baton Rouge, La.—Contract has been awarded to J. V. and R. T. Burkes of this city by the building committee of the Louisiana State University for the erection of the Hill Memorial library building at the Greater Agricultural College here. The structure will be two stories and basement, 200 by 135 feet, and will contain an auditorium capable of seating 4000. Contract price for the building is \$247,913. Plans and specifications were prepared by Theo. C. Link, with offices in Baton Rouge.

New Steel Mill Planned for Baltimore.

Announcement has been made that the Maryland Steel Rolling Co., H. S. Baldwin, general manager, with executive offices in Baltimore, is negotiating for a suitable plant in Baltimore and will soon begin the installation of machinery for the production of steel and steel products.

The machinery is already in Baltimore and is expected to be in the new plant by August 1. The company has been producing in Trenton, N. J. for several months and the Trenton plant will be continued as a branch factory.

Atlanta Considering \$1,500,000 Bond Issue for New Waterworks Hydro-Electric Plant—May Also Vote on \$5,000,000 for Schools.

Atlanta, Ga., July 16—[Special.]—A new bond issue of \$1,500,000 for a waterworks hydro-electric plant and the extension of city water mains has been recommended by the finance committee to the Atlanta city council. It provides \$1,100,000 for a new impounding dam and hydro-electric plant and \$400,000 for water main extensions to take care of the city's rapidly increasing population.

Plans for the new development call for a dam across the Chattahoochee river some two miles above the present pumping station. An intake water main will be extended into the river behind the dam, and through this the water will be carried by force of gravity to the present waterworks.

Turbines on either side of the dam will utilize the river's flow to generate electric power. This will be carried by electric cables to the present plant where, connected up with dynamos, it will supplant the steam engines now in use at the pumping station.

The capacity of the present intake main is about 40,000,000 gallons of water per day. That of the new main will be approximately 80,000,000 gallons a day. The present water mains have a capacity of 32,000,000 gallons a day. That of the new system of mains, when completed, will be 72,000,000 gallons—enough to take care of Atlanta's population until it reaches 500,000.

The present system is already overtaxed during warm weather, and according to the waterworks department, these new improvements will be imperative if any further increase in population takes place.

According to W. Zode Smith, in charge of the waterworks, the new improvements will save the water department \$100,000 a year, in addition to providing water for twice the population.

The Board of Education will also request an election some time after September 5 on at least \$5,000,000 for schools.

Construction Begun on Gasoline and Carbon Black Plants to Cost \$900,000.

Eastland, Tex.—Contracts have been awarded to Frank Dalton for the construction of a railroad siding and to A. F. Mueller for the excavation and foundation for the proposed gasoline and carbon black plants to be erected near Eastland by the Arab Gasoline Corporation at a cost of \$900,000. The siding will be two miles in length and will connect with the Ringling railroad.

The new gasoline plant will have a capacity of about 15,000 gallons of gasoline per day from 11,000,000 cubic feet of gas. After the gasoline has been extracted, the residue gas will be utilized for the manufacture of carbon black. The cost of each plant is estimated at \$450,000.

Importing Cement from Britain.

Wilmington, N. C., July 11.—The first cargo of cement to be imported from England to the port of Wilmington will arrive about the middle of this month. This cargo is the first of several cargoes of cement to be imported from various European ports by the Southern Power Company. The Danish steamship *Indianic* will arrive from the port of Aalborg, Denmark with a similar cargo for this company, which will be discharged for distribution at the Wilmington terminals. It is the belief of terminal officials of this city that this new business will reach large proportions.

On September 4 the City Commission of Tampa, Fla., will consider a bond issue for the purpose of carrying out a comprehensive program of municipal improvements which are estimated to cost \$2,000,000.

The Muscle Shoals Power Potentialities.

By HARRISON D. PANTON, E. E. Raleigh, N. C.

I have read with interest the recent article in the MANUFACTURERS RECORD entitled "Available Primary Power at Muscle Shoals," containing quotations from letters of Lieut. Col. G. B. Pillsbury and of Brig. Gen. H. Taylor, Corps of Engineers, U. S. Army. The data contained in Col. Pillsbury's letter is of great interest, but as an officer in the public service Col. Pillsbury naturally did not wish to commit himself in any way by deducing any conclusions from the facts he presented. As a result I judge from the last paragraph of this article that the MANUFACTURERS RECORD is still in doubt as to what amount of primary hydro-electric power can be developed at Muscle Shoals. I, therefore, feel prompted as a reader and admirer of the MANUFACTURERS RECORD and one who has had considerable experience in hydro-electric engineering, to put forward my opinion on the amount of hydro-electric power available at Muscle Shoals for commercial utilization, basing this opinion on the data contained in Col. Pillsbury's letter, in the hope that this opinion may assist to clear up any existing doubts on this matter, and to offset the many exaggerated statements which have appeared on this subject.

Briefly summarized in tabular form Col. Pillsbury's data on available hydro power at Muscle Shoals is:

At Dam No. 2, which is nearly completed:

87,300	H. P. available	99 1/4%	of the time.
141,000	"	83 1/4%	"
205,000	"	66 2/3%	"
306,500	"	50 %	"
600,000	"	21 %	"

At Dam No. 3, on which no actual construction has been done:

34,000	H. P. available	99 1/4%	of the time.
55,500	"	83 1/4%	"
81,000	"	66 2/3%	"
122,500	"	50 %	"
250,000	"	21 %	"

Col. Pillsbury states that the above figures are based on river flow only and do not take into consideration the use of water from storage by drawing down the ponds above the dams, or by developing storage reservoirs on the headwaters of the Tennessee River to augment the river flow during periods of low water. As will be shown later, some use can be made of the pondage under certain conditions. But it is doubtful if the development of storage reservoirs on the headwaters of the river is practicable from a financial viewpoint, the capital investment required to develop such storage reservoirs probably being in excess of the value of the power derived from such a storage where the water so stored is utilized in only one or two hydro stations. For the above reasons we will in the following leave out of consideration the use of storage reservoirs and confine our deductions to the available power as based on the actual river flow and the use of the pondage immediately above the dams.

Col. Pillsbury states that the data given in his letter is based on gauge readings which have been made at Florence continuously since 1871. As these gauge readings cover a period of 51 years the data deduced from them is accurate within 3 per cent, which is as high a degree of accuracy as can be hoped for from data of this nature, and we will, therefore use the data as given.

The power available for 66-2/3 per cent or more of the time is all that is of interest to us, since it would be impracticable from a financial viewpoint to invest money in generating equipment for which water is available less than two-thirds of the time. The reason for this is that there is no market for secondary power available for a shorter period than eight months in the year. In view of this consideration we will confine our attention to the first three figures given in Col. Pillsbury's data for each dam site; leaving out of consideration the last two figures given in each case.

Having stated our premises we are now ready to arrive at what may be regarded as the actual primary and secondary power available for development at Muscle Shoals; the consideration being given to the financial factors involved, since a development of this kind to justify its existence must be able to make a reasonable return on the invested capital.

We will have to consider this question of capacity from two distinct viewpoints depending on the purpose for which the power generated is to be used, since the capacity available for use in the fixation of atmospheric nitrogen will be considerably less than that which will be available if the power generated is to be sold commercially for manufacturing purposes. The reason for this is that nitrogen fixation is a continuous process, full load being carried virtually 100 per cent of the time; whereas power used for commercial purposes, including both manufacturing and public service, has an average load factor of 50 per cent. By load factor is meant the ratio of average load to maximum load. From this it is seen that the hydro capacity for commercial power generation is twice that available for nitrogen fixation.

A reserve steam generating station is usually provided in connection with large hydro-electric developments, since otherwise the primary power capacity of such a development would be limited to the minimum river flow. Such a steam plant has been built in connection with the Muscle Shoals development; this plant at present has an installed capacity of 30,000 K. V. A. which is equivalent to approximately 32,000 H. P. at a power factor of 80 per cent. This steam plant, known as the Sheffield Plant, has provision for an ultimate capacity considerably larger than at present installed, but for our discussion we will consider its capacity as being that actually installed at the present time; for if the capacity of this plant is increased it will increase the amount of primary power available by an amount exactly equal to the increase in plant capacity. It is proper in arriving at the power capacity of the Muscle Shoals development to take into consideration the Sheffield Steam Plant; since a development of this kind is usually considered in the aggregate, and misleading conclusions would be arrived at were the steam plant capacity eliminated from our discussion.

Bearing in mind the facts stated in the preceding we find the total power available at Muscle Shoals for nitrogen fixation at 100 per cent load factor to be:

Hydro power at Dam No. 2	H. P.
Hydro power at Dam No. 3	87,000
Steam power at Sheffield	34,000
	32,000

Total hydro & steam power 143,300

The installed hydro capacity should therefore be 143,300 H. P., since the steam plant is to be used only for reserve purposes to make up the deficiency in the river flow during periods of low water. As Dam No. 3, is at present merely a prospective development which will hardly be built within the next several years it is probably best to leave it out of consideration and this will reduce our present total primary capacity to 119,300 H. P. Col. Pillsbury states in his letter that there are on order for Dam No. 2, 4—30,000 H. P. units giving this plant an installed capacity of 120,000 H. P. which checks with the figure derived above. For nitrogen fixation no use can be made of the pondage since if it were drawn down there would be no way to replace the water so taken except by an increase in the river flow, and meanwhile the loss in efficiency resulting from operating the hydraulic turbines at reduced head would more than offset the amount of power derived from the storage used.

For sale as commercial power at 50 per cent load factor; and assuming that the pondage can be utilized to an extent

equal to 20 per cent of the minimum river flow; and that the Sheffield Steam Plant will be operated at 100 per cent load factor, thereby allowing the ponds to be drawn down by day and the draw down regained during the night; we find the total power available at Muscle Shoals for primary power to be:

	H. P.
Hydro power at Dam No. 2	105,000
Hydro power at Dam No. 3	39,000
Equivalent steam power at Sheffield	64,000

Total hydro and equivalent steam power 208,000

Under these conditions the installed hydro capacity should be 208,000 H. P. Eliminating Dam No. 3, as in the preceding paragraph the primary capacity is reduced to 169,000 H. P., and Dam No. 2 should have an installed capacity of this amount, bearing in mind that the steam plant is for reserve use only, the entire load being carried by the hydro station when the river flow permits.

As there is generally a considerable market for 8 months secondary power, that is power available for a total of eight months in the year, not necessarily eight consecutive months, it would be good engineering practice to utilize the river flow up to the amount available eight months in the year, that is 66-2/3 per cent of the time, and to install hydro-electric generating equipment capable of utilizing this flow. Under these conditions no allowance can be made for utilizing storage. Referring to Col. Pillsbury's data we find that on this basis we have available the following amounts of power:

	Primary H. P.	Secondary H. P.	Total H. P.
Hydro power at Dam No. 2	105,000	55,000	160,000
Hydro power at Dam No. 3	39,000	23,000	62,000
Equiv. steam power at Sheffield	64,000	0	64,000
Total hydro and equiv. steam power..	208,000	78,000	286,000

Under these conditions the installed hydro capacity at Dam No. 2 will be 205,000 H. P. and at Dam No. 3, 81,000 H. P. giving a total hydro capacity of 286,000 H. P. Reference to Col. Pillsbury's data will show that these are the figures given by him for power available 66-2/3 per cent of the time. The steam plant as in the preceding paragraphs is for reserve use only, its output being utilized to make up the deficit in the river flow for primary power only. Eliminating Dam No. 3, as was done in the preceding paragraphs, and bearing in mind that the generating capacity at Dam No. 2 is 205,000 H. P. we find that our primary H. P. is reduced to 169,000, and our secondary H. P. to 36,000. The difference in these figures as compared with those given above is due to the fact that the entire steam capacity is now available to make up for deficiency in river flow at Dam No. 2, instead of being divided between Dams No. 2 and 3.

Summarizing the data deduced in the preceding paragraphs we have available at Muscle Shoals the following amounts of power:

	Dams Nos. 2 & 3 H. P.	Dam No. 2 H. P.
Total power avail. for nitrogen fixation	143,300	119,300
Total prim. power avail. for coml. use	208,000	169,000
Total prim. and sec. power for coml. use ...	286,000	205,000

From the summarized data we see that the maximum practicable development at Muscle Shoals with a reserve steam capacity of 32,000 H. P. is 286,000 H. P. From this it is at once apparent how absurd are most of the statements appearing with regard to the capacity of the Muscle Shoals development.

Construction of Steel Foundry Progressing.

Dallas, Tex.—The new steel foundry building being erected here by Sutton, Steele & Steele is well under way. The building is of all-steel construction and will be equipped with modern machinery, including a new 'Lectromelt' furnace supplied by the Pittsburgh Electric Furnace Corporation of Pittsburgh, Pa. The improvements will cost about \$175,000.

Products of the plant will include all grades of fine steel castings, both plain carbon and alloy steels. The capacity will be 150 tons per month.

\$300,000 Improvements to Hospital at Raleigh.

Raleigh, N. C., July 16—[Special.]—Contract has been awarded to J. E. Beaman of this city for improvements to the State Hospital here to cost about \$300,000. The improvements will consist of additions to the original epileptic colonies, with a central heating plant, new cook rooms, dining rooms and dormitories to be added to the three colonies. Semi-fireproof construction will be employed, asbestos shingle roofs, wood and tile floors, etc.

In addition to the general contract, an award for the central heating plant to cost \$40,000 was made to W. W. Dick of Greensboro, and to the Thompson Electrical Co. of Raleigh for the under-ground wiring to cost about \$17,000.

Plans and specifications for the work were prepared by H. A. Underwood of this city. Dr. Albert Anderson is the superintendent of the hospital.

District of Columbia Buys Maryland Site for Home for Insane.

Washington, D. C.—A site of 827 acres in Anne Arundel County, Maryland, has been purchased by the District of Columbia for the establishment of a Home for Feeble Minded. Congress fixed a cost limit at \$300,000 on the project, of which \$100,000 is immediately available. After paying for the property the purchase price of which was \$38,000, there will be \$62,000 available for plans and the construction of the initial buildings.

The site is located about one-half mile from Annapolis Junction and twenty-four miles from Washington, is said to be well drained, and is bisected by the little Patuxent River. It is paralleled for one and a half miles by a branch of the Baltimore & Ohio Railroad and by the Washington, Baltimore & Annapolis electric line. The Washington Baltimore boulevard is two miles to the west.

\$1,000,000 Gas Project in West Virginia.

Charleston, W. Va.—The Clayco Gas Co., a subsidiary of the South Penn Oil Co., with offices in this city, has secured options on five or six acres at Carlin in the Cabin Creek district of Kanawha County, as a possible site for a booster station for a 72-mile pipe line being laid by the company, the station to cost from \$250,000 to \$500,000 and the entire project to entail an outlay of more than \$1,000,000.

It is stated that the pipe line has been laid from Minnora, Calhoun County, practically to Barren Creek on the edge of Kanawha County this main being eight inches. The line will be extended into Cabin Creek with a ten-inch main.

The Clayco Gas Co. has 7900 acres of gas lands under lease in Logan County and a large acreage in Boone County. Gas will be piped to the northern section of the State, but will also be sold locally if there is a demand.

Sculpture Contracts for Missouri State Capitol.

Jefferson City, Mo.—Contracts aggregating \$145,000 have been awarded by the Capitol Decorations Commission, Arthur A. Kocian, secretary, for sculpture work for the State Capitol here. The sculptors receiving contracts are all of New York. They include Adolph A. Weinman who will carve figures from stone to fill the pediment or triangular space above the portico at the main entrance of the building, space 66 feet wide and 10 feet high, cost of figures \$65,000; Robert Aitken at \$65,000 for bronze groups on the cheek blocks on either side of the steps of the main entrance, one group to typify the Mississippi River and the other, the Missouri, the bases measuring 5 by 15 feet each, and Sherry Fry for an heroic figure to surmount the dome of the building, the figure to be 12 to 15 feet high and executed with regard to a commanding silhouette rather than to detail. The cost of the figure will be \$15,000.

NEWS AND VIEWS FROM OUR READERS

[Publication in this department of letters from our readers does not mean that we either approve or disapprove the views expressed. We believe in a full and frank discussion of the mighty questions of the hour, for only in this way can the truth be found. Therefore we often publish letters with which we do not agree.—Editor Manufacturers Record.]

South's Advantageous Climate for All Year Labor.

FRANK A. PIERSON, Secretary Chamber of Commerce, Columbia, S. C.

While more than half of the New Bedford, Mass., cotton mills were compelled by the heat to close one day during the heat spell, after more than fifty heat prostrations among operatives had occurred, the textile plants in South Carolina continued in operation.

The Pacific Mills, the largest in Columbia, have felt no depression during the time of the heat wave and this is true in all the plants of this territory. The humidity is low, consequently the extremes of heat are not trying. Prostrations from heat practically never occur. In fact, some of the oldest citizens are unable to recall any time when prostrations have been caused by the temperature.

At Columbia the United States Weather Bureau registered an average summer temperature of only 79.6 over a period of thirty years. The average all year temperature over the same period was 63.5.

Industry at Columbia is benefitted rather than made to suffer because of climate. Out of doors work can be carried on throughout the year. Shut downs are not necessary any part of the year. Summer schools are conducted and the students experience no difficulty from the heat in completing the courses.

Obedience to Law.

W. S. HAWKINS, Civil Engineer, Greenwood, Miss.

I have just read, in your issue of June 21, your editorial on "Are You an Honest, Law Abiding Patriotic Man?" and want to express my appreciation of the views you express.

While this is a free country and we insist on the rights of an unbridled press; yet, the very propaganda to which you refer comes to the citizenship of the country, not through any publicity initiated by the liquor interests, but due to the great tendency on the part of a portion of the press to ridicule and treat as a joke any effort of the authorities to enforce the laws against the traffic in this so-called whiskey, sold in bottles on which are labels as cunning in their deception as is possible for anything, conceived in the mind of man, to be.

Your reasoning and argument is absolutely unanswerable and I wish the editorial could be copied in every paper in the country. America is law abiding, and some day in some way right will prevail and those who persist in violating the prohibition laws of the country are going to be treated and punished as the criminals they are. We hear much in the South of "100 per cent American." To be a real American means to support the laws, the courts, and above all to stand out four-square against anything that tends to undermine the moral courage of the nation.

Problems Inherent in Building Construction.

FREDERICK W. FENN, 366 Madison Avenue, New York City.

Doubtless you will recall that the writer is a subscriber to and a thorough reader of your publication. I have just finished reading the editorial entitled "The Bankers View on Necessity of Continued Building Expansion" and want to write a few words regarding Mr. S. W. Straus' statement on building conditions.

It would be a wonderfully progressive movement if one city, finding itself confronted with a shortage of commercial

buildings, would confine its activities to the construction of that type of building until the acute shortage disappeared. Likewise another city experiencing a shortage in hotels, or another in dwellings. Perhaps some of our outstanding economic problems would then be solved, rents would fall, the labor market steadied and building construction costs would be lowered; but my knowledge of human nature convinces me that where capital can be obtained, and often at an unnecessary high premium, building programs are carried out without the slightest consideration, on the part of those responsible for the program, as to what the future holds forth, and as to whether the project will render a profit or not.

Capital is invested in buildings without sufficient knowledge as to whether it will ever again bring the prices paid. I know of many instances of this kind and thoroughly believe that a company responsible for the building of a hotel not far away, could not be induced to hold up that operation so that the labor employed could be diverted to apartment buildings which are sorely needed in this city. It all goes deeper than many of us think, and the human mind, so long as it is bent upon selfish interests alone, will never take into consideration the needs of the other fellow or of the community.

Wealth Unless Wisely Used Becomes a Curse to an Individual or a Nation.

HENRY R. GOETCHINS, Columbus, Ga.

The Columbus Electric & Power Company sent me a copy of your Blue Book of Southern Progress. I have noted with interest the matter set out in its pages. Your editorials especially appeal to me as being most excellent. As a lifelong resident of this blessed section of our Union, I have never failed, when occasion offered, to refer to it as the most favored section. I was old enough at the close of the decade preceding the great war between the states, to understand the then indescribable prosperity and superior social conditions of the Southern States. As a boy, I lived through great disasters of that war and the havoc and ruin that it brought to life and property. My good father and mother gave two sons to the Southern side, who never came back home, and a third who survived to live and pass through the sad days of reconstruction. My parents, like thousands of that generation, did not survive the strain of that war and of those days and died comparatively early in life. The resuscitation of our Southern country along all lines of human endeavor, since that time has been the economic wonder of the age. There is no story like it in human history.

While I know you realize all of this as true, I cannot help enclosing an editorial which fell under my eyes a few days ago just after looking through the Blue Book. It was clipped from an Alabama country weekly, the "Tuskegee News." It has from first to last a suggestion of food for thought. What the writer evidently intended to bring out was the great philosophical truth, that above all material accomplishments there must be a foundation in the mind and in the hearts for the people, for right living and elevated motives.

I think that the greatest work now devolving upon ministers of the gospel, regardless of sect, editors, teachers, lawyers, and thoughtful men of all classes, is to try and get our people to think and live along right lines.

THE IRON AND STEEL SITUATION

Absence of Cancellations a Significant Feature in Steel Situation.

Pittsburgh, Pa., July 16—[Special.]—In steel manufacturing circles much emphasis is laid on statements that up to date there have been no cancellations of orders or instructions to suspend or postpone shipments, that would amount to anything. These statements are no doubt true. The conditions as to absence of cancellations and postponements are due to two facts. First, that actual industrial activity is continuing. The various manufacturing consumers of steel are working as formerly. Even the automobile industry, which is due for a seasonal lull at this time, is running almost as heavy as in June, and the jobbers are distributing steel to their customers much as formerly. The change that has occurred in the past couple months or so is in commercial activity, not industrial activity. Second, that steel buyers did not buy heavily for the current quarter. In the early months of the year they were sanguine and active buyers, but chiefly for deliveries up to July 1. If they had overbought for the third quarter the case would be different.

A corollary to this, however, is that the steel mills are not well sold up at this time. In the past six months much has been said about the steel mills running "on momentum" after the great buying movement should end. In the past two or three months this may have been the momentum of order books, but for the future mill operations will depend on the momentum of the steel consuming industries, which are running very well and will continue to do so for several months at least, perhaps indefinitely.

The steel mills could not be well sold up at this time, when all along they have been insisting that they were unwilling to sell for far forward deliveries. Whether buyers would have bought cannot be known, but the mills were refusing to sell. Perhaps their refusal to sell for late delivery encouraged the buying for early delivery.

The Steel Corporation appears to be an exception to this statement, since the 6,386,261 tons of unfilled business it reported for July 1 is equal to 5½ months of production at 90 per cent of capacity, but it is to be cited that at the beginning of July, 1921, the "unfilled tonnage" stood at 5,117,868 tons, or four-fifths as much, and in that month the corporation produced at only about 25 per cent of capacity. No doubt the tonnage is for the main part entirely substantial, but actual production and deliveries depend on the operating position of the customers.

The increasing dullness in the steel market has now brought it to a point of virtual stagnation. There is business being placed, in moderate volume, but this is largely of routine character, together with a little buying against new requirements, not enough to count for much against the producing capacity. The stagnation in the market is due to a combination of three factors, the very heavy deliveries in the past six months, greater than expected by either sellers or buyers, the conservative feeling that has pervaded all business circles for two months or more past, and the season of the year, for July and August are almost always very dull months in the iron and steel market. Predictions are being made that the steel market will be more active in September, and no doubt it will be, but the sanguine forward buying of last December to March inclusive does not seem likely to be duplicated.

As to prices, the great finished steel products are unchanged in price and are steady at the top levels reached in the advance which reached its conclusion late in April. Many mills would like to book additional business but they do not care to cut prices when this would undermine the orders they already have on books. Coke and scrap started declining

late in March and pig iron joined the procession soon afterwards. It is the usual experience for finished steel to stay up after these markets have begun declining. From the top point, heavy melting steel scrap, delivered Pittsburgh district, has gone down about \$8.50 or 30 per cent, Connellsville furnace coke \$2.50 or one-third, and the average of pig iron in the various markets about \$4.60 or say 15 per cent.

In the valley market Bessemer is off \$1 from its former nominal quotation, being available at \$26.50, valley, while foundry is off a like amount, to \$25.50, valley. Basic remains quotable at last week's decline to \$25, valley, though there are rumors it can be bought for less. There is scarcely any demand for any grade and a few furnaces are going out of blast.

The American Iron and Steel Institute is now receiving monthly reports of steel ingot production from a larger number of producers, representing 95.35 per cent of the whole production in 1922, and is thus able to report almost precisely the production month by month. The first half of this year shows 23,213,243 tons, which is 67 per cent of production in the whole of 1922 and 21 per cent more than production in all of 1921. The rate in June was 45,000,000 tons a year, against close to 50,000,000 tons at the top point, late in April. Production is now probably running at about 40,000,000 tons, but it may decrease farther in the next few weeks.

No Material Change in General Situation at Birmingham.

Birmingham, Ala., July 16—[Special.]—Still dull, production being kept at almost peak pace, shipments and melt changed but little, quotations uncertain. This is the picture of the pig iron market in the Birmingham district at present. Humidity, lack of labor at ore mines and a little scarcity at blast furnaces, and other causes, account for continued failure of furnaces to produce a steady amount of the best grades of iron. The additions in the last few weeks to the stock of iron to be seen on furnace yards, is accounted for in off-grades of iron produced. Also a little first-class foundry iron was placed on furnace yards. The larger and more active furnace companies of the district are still quoting \$27 per ton, No. 2 foundry, as the base price, but the \$25 price is still to be heard and a range of \$25 to \$27 is being given. Reports are also current that \$24.50 per ton has been done by a Tennessee iron producer but this price is not stated as a market price. Small lot orders are still being received. Considerable iron is still available of the probable make of the third quarter and the small-lot business is being booked against this.

Furnace interests in Birmingham are in high anticipation that an impetus in the buying will be felt shortly, inquiries indicating a little better need of iron. No sales have been made for fourth quarter delivery. The fact that no cancellations on old contracts have been experienced is still encouraging. This is vastly different to conditions in other branches of the industries, manufacturers of finished steel products aver that they have had a number of cancellations. Shipments of pig iron and melt in the home territory are together slightly under the present make. Consumers are not piling up any iron and are asking for prompt delivery.

The furnace interests have maintained steadiness in quotations and have not intimated anything under \$27, No. 2 foundry. From other centers come reports that lower prices are obtaining and one or two reports have had it that iron has been sold in Alabama as low as \$25 per ton and that there will be a considerable tonnage offered at that price for the fourth quarter. The fact that furnace interests here do not anticipate any curtailment in the production for some time raises the query as to what is likely to happen, when buying begins.

The cast iron pipe industry is still waiting for new business. Pressure pipe makers have orders which will call for capacity production for three months at least and a little longer with some small lettings being announced every week. The sanitary pipe makers are not getting in any business at all and have but a few weeks more business on the books.

Machine shops and foundries are doing well, though some of these industries are looking forward to new business. The larger machine shops have good work in hand, viz: Goslin-Joubert, Birmingham Machine & Foundry and Hardie-Tynes.

Surplus iron on yards here is given at 48,000 tons as of July 1, including 13,200 tons of basic iron. Of the total 28,400 tons is foundry iron.

The scrap iron and steel market shows very little improvement, still being weak and prices uncertain. Dealers are delivering on old contracts and are encouraged by reason of absence of cancellations.

The weekly coal production is again reaching out after 360,000 tons. Alabama Mining Institute figures for the first half of the year show production in Alabama to have been 9,737,000 tons against 8,370,000 tons for the same period a year ago. Steam coal is still waiting for calls. The big merger of the DeBardeleben, Empire and Corona coal companies is working on its bunker and shipping coal business with prospects of some improvement in the near future. Already shipments are becoming a little more active towards the gulf ports and storage plants are to be kept well filled.

The International Association of the United Mine Workers of America has suspended Alabama District No. 20 and takes charge of the fragment of the organization in this state. President Kennamer and Secretary Clemo after years of leadership in mine union affairs are displaced and the open shop is enhanced here.

Pig iron and iron and steel scrap quotations follow:

PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$25.00 to \$27.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$25.50 to \$27.50; iron of 2.75 to 3.25 per cent silicon, \$26.00 to \$28.00; iron of 3.25 to 3.75 per cent silicon, \$26.50 to \$28.50; iron of 3.75 to 4.25 per cent silicon, \$27.00 to \$29.00; charcoal iron, f. o. b. furnaces, \$34.00.

OLD MATERIAL.

Old steel axles	\$21.50	to	\$22.00
Old iron axles	25.00	to	26.00
Old steel rails	17.00	to	18.00
Heavy melting steel	15.00	to	16.00
No. 1 R. R. wrought	15.00	to	16.00
No. 1 cast	20.00	to	20.50
Stove plate	16.50	to	17.50
Old car wheels	18.50	to	19.00
Old tramcar wheels	19.00	to	20.00
Machine shop turnings	8.00	to	10.00
Cast iron borings	10.00	to	11.00
Cast iron borings (Chem.)	16.50	to	17.50

MONTHLY PRODUCTION OF STEEL INGOTS, JANUARY, 1922, TO DECEMBER, 1922.

Reported by companies which made 84.15 per cent. of the Steel Ingot Production in 1922.

Months 1922	Open- hearth	Bessemer	All Other	Monthly Production Companies Reporting	Calculated Monthly Production all Companies	No. of Working days	Approximate Daily Production all Companies
January	1,260,809	331,851	822	1,593,482	1,891,857	26	72,764
February	1,395,835	348,571	616	1,745,022	2,071,772	24	86,324
March	1,918,570	451,386	795	2,370,751	2,814,667	27	104,247
April	1,997,465	445,939	1,109	2,444,513	2,902,249	25	116,090
May	2,214,774	494,893	1,474	2,711,141	3,218,794	27	119,215
June	2,143,708	487,851	2,918	2,634,477	3,127,775	26	120,299
July	2,020,572	464,047	2,485	2,487,104	2,952,806	25	118,112
August	1,807,310	404,379	2,893	2,214,582	2,629,256	27	97,380
September	1,911,147	460,127	2,505	2,373,779	2,818,261	26	108,395
October	2,352,207	518,010	2,198	2,872,415	3,410,265	26	131,164
November	2,360,903	525,945	2,449	2,889,297	3,430,309	26	131,935
December	2,241,104	536,214	2,572	2,779,890	3,300,416	25	132,017
Total	23,624,404	5,469,213	22,836	29,116,453	34,568,418	310	111,511

MONTHLY PRODUCTION OF STEEL INGOTS, JANUARY, 1923, TO JUNE, 1923.

Reported for 1923 by companies which made 95.35 per cent. of the Steel Ingot Production in 1922.

Months 1922	Open- hearth	Bessemer	All Other	Monthly Production Companies Reporting	Calculated Monthly Production all Companies	No. of Working days	Approximate Daily Production all Companies
January	2,906,892	728,270	9,467	3,644,629	3,822,369	27	141,569
February	2,613,564	669,903	10,797	3,294,264	3,454,918	24	143,955
March	3,046,309	799,525	12,841	3,858,675	4,046,854	27	149,883
April	2,974,579	772,485	13,933	3,760,997	3,944,412	25	157,776
May	3,136,558	847,418	16,719	4,000,695	4,195,800	27	155,400
June	2,821,239	737,845	15,483	3,574,567	3,748,890	26	144,188
Six Months	17,499,141	4,555,446	79,240	22,133,827	23,213,243	156	148,803

-Iron Ore Mining Methods.

In the study of iron-ore mining methods in the Birmingham, Ala., district, being made by the Department of the Interior, through the Bureau of Mines, several hundred flashlight photographs illustrating the failure of pillars and conditions affecting mine supports have been taken.

Barite and Ocher in Georgia.

The results of a study of the mining and preparation of barite and ocher in the Cartersville, Ga., district, made by the Department of the Interior, are given in Serial 2477, recently issued by the Bureau of Mines.

For a number of years the district around Cartersville, Ga., has been an important producer of nonmetallic minerals. The barite industry ranks first. Georgia took first place among the States in the production of barite in 1916, but its production was slightly exceeded by Missouri in 1920 and 1921. The ocher industry is next in importance, and is of many years standing. Ocher was first produced in the Cartersville district in 1877 and there has been a gradual increase in development and production since that time. Production statistics are not available but the production for the state is probably not far from 12,000 net tons per year, states the Bureau.

Steel Ingot Production Report on New Basis.

The American Iron and Steel Institute in presenting its monthly report of steel ingot production and a revised report on the new basis for 1923, writes:

"The basis of the monthly report of steel ingot production has been changed by including reports from a larger number of companies so that the figures represent over 95 per cent of the total production. The reports for previous months of 1923 have been revised and put upon this new basis.

"We have also added to the report the estimated total production of all companies calculated on the percentage basis stated in the tables, together with the number of working days in each month and the approximate daily production of all companies.

"Although the actual reported production in 1922 is on the old basis of 84.15 per cent of total production, the calculated monthly production of all companies and the approximate daily production of all companies are comparable with the similar figures presented for the first six months of 1923, which are based on actual returns of companies which in 1922 made 95.35 per cent of the total production."

RAILROADS

FREIGHT TRAFFIC RECORD BROKEN.

**More Cars Loaded in a Week Than Ever Before—
Surplus of Cars and Engines.**

Freight traffic on the railroads is moving in unprecedented volume. The loadings of revenue freight during the week ended June 30 broke the record for weekly loadings with a total of 1,021,770 cars, or 3231 cars more than were loaded during the previous record week—that of October 14, 1920. Moreover, the week of June 30 this year was the fourth consecutive week in which the loadings were more than 1,000,000 cars, although there was one other week recently that the million mark was topped. The loadings for the week were over 19,000 cars more than the preceding week. The same week last year and the year before were exceeded by over 158,000 and 245,000 cars respectively.

Simultaneously with these heaviest weekly loadings of revenue freight in the history of the railroads the reports from the railroads to the car service division of the American Railway Association showed a steady increase in the number of freight cars in good repair and immediately available for use, the surplus on June 30 being 63,636, an increase of 4965 cars since June 22 and an increase of 31,193 for the month. There is also a surplus of 2181 locomotives in good repair ready for use.

Since January 1 this year there have been loaded with revenue freight a total of more than 24,000,000 of cars as compared with something over 20,000,000 cars loaded during the same period of last year, the increase being therefore 20 per cent. Two years ago the same period showed a total of 18,685,900 cars loaded.

Substantial progress is also reported by the railroads on the programme agreed upon in April to complete by September 1 storage of coal for railroad use so that thereafter coal carrying equipment can be used fully for transporting commercial coal. On July 12 there were 44 railroads representing 75 per cent of the Class 1 railroads which reported storing 1,821,412 tons of coal during June, this making a total of 6,638,812 tons in storage on these lines July 1 for railroad use.

"Bulkheading" of Cars Abandoned.

New Orleans, July 14—[Special.]—The practice of various Southern railroads of requiring lumber shippers to "bulkhead" open cars when used for carrying lumber, has been abolished, according to announcement by A. G. T. Moore, Traffic Manager of the Southern Pine Association and chairman of the Southeast Advisory Board of the American Railway Association. "Bulkheading" means construction of what is practically a box-car end on the open car in addition to the usual car stakes and strips along the sides and top. The practice cost the lumber manufacturer from \$19 to \$23 per car in addition to shipping charges. Tests conducted by the Southern Pine Association and the master car builders revealed that bulkheading was unnecessary. This abandonment of the practice, is pointed to as another example of the benefits accruing from the new plan of the railroads of forming regional advisory boards of shippers.

Big Coal Traffic to the Lakes.

The car service division of the American Railway Association reports that from January 1 to July 2 this year there was a total of 10,217,830 tons of bituminous coal dumped at Lake Erie ports for shipment up the lakes, this being the largest amount of coal so handled in the corresponding period of any of the last six years excepting 1921 when the total was 38,059 tons greater. Dumpings continue to be very heavy.

Working on Extension in Mexico.

Guadalajara, Mexico, July 12—[Special.]—More than six thousand men will be employed soon on the construction of the 85 miles extension of the Southern Pacific Railroad of Mexico, now being built from a point near Tepic to a connection with the National Railways of Mexico 25 miles west of here, according to the Utah Construction Company which has the general contract. The cost of the extension will be approximately \$11,000,000 United States currency. Construction material and equipment are being delivered at both ends where the work is now under way. Labor is being rapidly recruited.

Mining and other industries along the route of the new extension are being greatly stimulated by the prospects of an early transportation outlet. According to information received here several mining properties are soon to be re-opened and a number of ore reduction mills are to be installed between Guadalajara and Tepic.

Railroads Reduce Freight and Damage Claims.

Information Bulletin No. 6 of the American Railway Association, Freight Claim Division, 431 South Dearborn St., Chicago, shows that in 1921 the number of freight loss and damage claims presented totaled 2,632,000, a decrease of more than 45 per cent as compared with 1920 and that in 1922 the total was 2,351,000, a decrease of about 10 3/4 per cent as compared with 1921. The amount of freight loss and damage claims paid in 1921 was \$92,276,000, a decrease of 23 per cent as compared with 1920 and in 1922 the total was \$44,500,000 (partly estimated), a decrease of nearly 52 per cent as compared with 1921. The ratio of freight claims paid to gross freight earnings of Class 1 railroads was but 1.12 per cent as compared with 2.36 per cent in 1921 and 2.78 per cent in 1920.

District Car Service Appointment.

Charles F. Wolcott, formerly with the Pennsylvania Railroad Co., has been appointed district manager of the car service division of the American Railway Association at Pittsburgh, Pa., and he assumed his new duties July 15. The territory composing the Pittsburgh district of the Association includes the western parts of Pennsylvania and New York, the northwestern part of Maryland, the northern part of West Virginia, and also that part of Ohio lying east of a line drawn from Parkersburg, W. Va., to Mansfield, O., and thence to Buffalo, N. Y. It does not however, include the terminals at Buffalo, Niagara Falls or Suspension Bridge.

New Equipment.

Baltimore & Ohio Railroad has ordered 100 four wheeled steel tie cars and 15 four wheeled steel piling cars from the Pressed Steel Car Co.

Atchison, Topeka & Santa Fe Railway is reported in the market for 300 mill-end gondola cars.

Busses in Louisville.

The Louisville Railway Co., Louisville, Ky., through a subsidiary organization, the Kentucky Carriers, Inc., \$200,000 capital, has put in service in that city four busses and twelve double decked busses are also to be in service by September or October.

Contract Awarded.

The St. Louis, San Francisco Railroad has let a contract to the List & Gifford Construction Co., of St. Louis, for laying about 8 miles of storage and switching tracks at Lindenwood, Mo., and it is also about to build a new coaling station there.

Short Line to Large Lignite Mine.

E. A. Camp, of Rockdale, Tex., one of the incorporators of the Rockdale, Sandow & Southern Railroad Co., informs the MANUFACTURERS RECORD that the company's proposed line will be from Marjorie, a station on the International & Great Northern Railroad about 6 miles west of Rockdale, and thence it "will run 7 miles southwest to a 1300 acres deposit of A-1 lignite from 8 to 15 feet in thickness and within from 15 to 40 feet of the surface. It is proposed to operate a stripping lignite mine on this 1300 acres and the new railroad is to haul out the product to the International & Great Northern Railroad. The mine is being operated by the Western Securities Co., of McAlester, Okla., of which J. G. Puterbaugh, of McAlester is president. The railroad is owned by the same people but under a separate charter.

"The railroad is now practically complete and the mine will be in operation by September 1. The overburden of dirt will be removed by machinery and then the lignite loaded on railroad cars by machinery. Exclusive of land there will be an investment of about \$200,000. The Securities Company office is at McAlester and the general office of the railroad is at Rockdale. These are both closed corporations; no promotion, and no stock for sale."

Reduced Rates on Hogs in the South.

The Interstate Commerce Commission has ordered that railroad rates on hogs raised in southeastern states and destined to packing plants in and around Fort Worth, Tex., be reduced from 5 to 7 per cent, the order becoming effective October 3 and applying to all shipments originating in Florida, Alabama, Mississippi, Louisiana, Tennessee and Kentucky. Charges are to be on a weight basis, the governing scale being, it is stated, 47 cents per 100 pounds for 450 miles or less, this increasing—proportionately to distance—up to a charge of 68 cents per 100 pounds for 1200 miles, the railroads being authorized to add 15 per cent for shipments in single deck cars. The roads were also ordered to make a rate effective on the same date on hogs from Nashville, Tenn., to Oklahoma City, Okla., of 57½ cents per 100 pounds, which is also less than present rates that are on a carload basis.

To Build Interurban Electric Railway.

Announcement has been made at Houston, Tex., that construction of the Seabrook interurban railway will begin before October, the trustees and executive committee of the enterprise being John H. Kirby, W. C. Munn and John S. Bonner. The Seaboard Electric Railway Co., with an authorized capital of \$2,000,000 will be incorporated to build and operate the line which is to run from Houston, via Harrisburg, Pasadena, San Jacinto, Battle Park and Morgan's Point to Seabrook on the bay shore, 35 miles or more. It is stated that Messrs. Kirby, Munn and Bonner together with J. M. West, J. S. Rice, I. A. Cottingham and Jacob F. Wolters will be directors. Besides furnishing transportation facilities to residents of suburbs and also to excursionists it is stated that the line will also carry a large number of employees of several big industries.

Asherton to Eagle Pass, Tex.

Asherton, Tex., July 7—[Special.]—An extension of the Asherton & Gulf Railroad from this place to Eagle Pass, about 60 miles, is to be built as soon as the necessary survey can be made and right of way obtained. The road is 32 miles long and runs from Bart, where it connects with the International & Great Northern, to Asherton. L. V. Richardson is president.

TEXTILE

\$4,000,000 FIBRE SILK PLANT FOR NASHVILLE.

Du Pont Company Purchases Old Hickory Plant at Price Said to Be About \$550,000.

Nashville, Tenn.—Carrying out its plans for the purchase of a site in the South for the establishment of a fibre silk plant at a cost of \$4,000,000, reference to which appeared in the MANUFACTURERS RECORD of June 28, announcement has been made here that the E. I. du Pont de Nemours Co., Inc. of Wilmington, Del. has signed a contract for the purchase of the Old Hickory plant at Hadley's Bend. The purchase was made from the Nashville Industrial Corporation which acquired the property from the Government. The amount involved in the transfer has not been announced, but it is said to be in excess of \$550,000.

The purchase includes 500 acres of land on the Cumberland river on the northeast side of the powder plant reservation, and on this property the company will build the plant, using about 600 houses in the village section for the accommodation of workmen. There are also included three larger buildings which will be used temporarily for offices, also a large water plant. The industrial plants located in the central section of the reservation were not included.

Details regarding the proposed plant have not been determined, except that it will employ from 1500 to 2000 operatives at first. It will manufacture fibre silk from wood pulp and in order to secure an adequate supply of water, it is stated that the company will install a larger system of waterworks. The plant will be operated partly by steam and partly by electricity.

It is stated that engineers of the company will be sent to Nashville at once and that construction work should be completed within ten months. The plant will be equipped with the most modern machinery, much of which will be made to order.

\$200,000 Contract Let for 150 Dwellings.

Wadesboro, N. C.—A contract for the erection of 150 dwellings in the new mill village here of the Wadesboro Manufacturing Co. has been awarded to T. C. Thompson & Bros. of Charlotte at a cost of \$200,000. The dwellings will be of the bungalow type and will contain, three, four, five and six rooms. They will be equipped with shower baths, running water and modern plumbing.

The Wade Manufacturing is at present building its new mill and expects to have it ready for operation by the fall. Robert & Co., Inc. of Atlanta are the engineers and T. C. Thompson & Bros., contractors. The company is capitalized at \$1,000,000 and it is estimated that the plant and village will cost about \$500,000. Its officers are T. C. Cox, president; I. B. Covington and J. A. Leak, vice-president, and W. Henry Liles, secretary and treasurer.

Kilby Cotton Mills and Shirt Factory Operating.

Montgomery, Ala., July 16—[Special.]—The Kilby cotton mill and shirt factory, constructed by the State of Alabama in the State Prison at Kilby, has recently been put into operation. The plant is equipped with 10,000 spindles of modern type and the shirt factory with cutters, sewing machines, etc., all machinery being electrically driven with purchased power. J. E. Sirrine & Co. of Greenville, S. C. designed the mill which is reinforced concrete construction of the daylight type.

The product of the plant will be fine yarn chambrays manufactured into shirts. Convict labor is employed in the mill.

"More Cotton Mills" Movement in Texas a Success— New Plants Likely in Number of Cities.

Austin, Tex., July 16—[Special.]—Much success is being had in the "more cotton mills" movement in Texas, according to Burt C. Blanton, manager of the Industrial Department of the Texas Chamber of Commerce. He said:

"Cities in the State where capital has already been raised, in whole or in part, and where mills are practically assured are Breckenridge, Mexia, El Paso, Fort Worth, Houston, Waco and Dallas. This does not indicate their construction will begin very soon, but that the citizens of the respective communities have formulated plans with a view to erecting mills within one to two years.

"With twenty cotton mills now operating in Texas, it is almost assured that this number will be augmented, and possibly doubled, within five years.

"The cities and towns which have textile committees now are Amarillo, Austin, Beaumont, Breckenridge, Corpus Christi, Dallas, Dublin, El Paso, Fort Worth, Greenville, Henrietta, Houston, Longview, Marble Falls, Marshall, McKinney, Mexia, New Braunfels, Paris, Ranger, Rockdale, San Angelo, San Antonio, Seguin, Temple, Terrell, Texarkana, Tyler, Waco, Waxahachie and Wichita Falls."

New Company Adding 308 Looms.

Charleston, S. C.—In conformity with its plans for enlarging the mill and converting into the production of colored goods, the Williamson Mills Co. which recently took over the Royal Mills here, plans the installation of 308 additional looms, making a total of about 500 in the plant. Some of the additional looms are expected within the next thirty days and the remainder will be installed gradually. The present looms will be converted for the manufacture of colored nap outing. It is stated that no structural enlargement is contemplated at this time.

Officers of the Williamson Mills Co. are F. L. Williamson, president; S. E. Menefee, vice-president; William P. Brooks secretary, and Thomas L. Lewis, superintendent.

Texas Cotton Mill Nearing Completion.

New Braunfels, Tex.—The new cotton mill under construction here for the Planters & Merchants Mills, Inc., capitalized at \$1,500,000, is nearing completion and will soon be in operation. The plant will produce standard staple gingham in plaids, checks, stripes and plain colors, the equipment including a dyeing and finishing plant. It will house 10,000 looms and 360 automatic looms, employing about 225 operatives. Power will be furnished from a hydro-electric plant on the Guadalupe River developing 440 horse power at a minimum flow of the river.

Officers of the company are S. M. Ransopher, president; Joe D. Gilliland, secretary, and Max W. Schulz, treasurer.

Cartex Company May Double Plant.

Reidsville, N. C.—Plans are being considered for the enlargement of the knitting mills here of the Cartex Co. which will double the capacity of the plant. The Cartex Co. is largely controlled by William H. and Horace Carter of Needham Heights, Mass. and the plant here is engaged in the manufacture of Carter's knit underwear. It has a daily capacity of 125 dozen suits.

Textile Mill Notes

The Delburg-Linden Co., Davidson, N. C., has filed an amendment to its charter authorizing the issuance of \$120,000 of stock. J. P. Munroe is president and J. Lee Sloan is secretary of the company.

The Brookside Mills, Knoxville, Tenn., will expend \$30,000 to erect a one-story pickling room addition to its plant.

Electrical Work Awarded for Arcadia Mills.

Spartanburg, S. C.—Contract has been awarded to the Walker Electric & Plumbing Co. of Greensboro, N. C. for the installation of electrical equipment in the new building here of the Arcadia Mills. The contract covers light and power wiring, motors and switchboards. The building will be three stories and part basement, 287 by 105 feet, concrete foundation, brick walls and steel floor beams, etc.

F. H. and J. G. Cunningham of Greenville designed the structure in association with the Spartanburg office of Lockwood, Greene & Co., engineers of Boston and Atlanta. The Gallivan Building Co. of Greenville is the contractor. Whiting spinning frames and roving machinery, Kitson pickers and Hopedale looms will be installed all machinery to be electrically driven.

Plan 20,000—Spindle Mill at Little Rock.

Little Rock, Ark., July 16—[Special.]—Plans are being made by John B. Tripp of Little Rock to build a 20,000-spindle mill here, although details have not been worked out. The plant will be owned and operated by the Arkansas Cotton Mills Co., with a paid-up capital stock of \$1,500,000. Its officers include E. Dalton, Pocahontas, Ark., president; and Dr. H. L. Throgmorton, vice-president, both of Pocahontas, Ark.; and T. W. Campbell of Little Rock, secretary and treasurer.

Report on Southern Pine.

The Southern Pine Association for the week ended July 6 reports as follows on 134 mills:

	Cars	Feet
Orders on hand beginning of week	13,116	275,147,448
Orders received during week	2,489	52,214,242
Total	15,605	327,361,690
Shipments during week	3,011	63,164,758
Orders on hand end of week	12,594	264,196,932

Production for the week was 67,978,072 feet. Shipments were 4,813,314 feet below production or 7.08 per cent. Orders were 15,763,830 feet below production or 23.19 per cent. Orders were 17.34 per cent or 10,950,516 feet below shipments. The week was 17,971,680 feet or 20.91 per cent below normal production, and orders were 39.25 per cent or 33,735,510 feet below normal production. The decrease in orders on hand amounted to 10,950,516 feet or 3.98 per cent.

Cherokee Brick Company Begins Operations.

Knoxville, Tenn.—Erected and equipped at a cost of \$175,000, the Cherokee Brick Co. of this city has put into operation its new plant having a capacity of 50,000 brick per day. Modern machinery has been installed and it is the purpose of the company to add an additional battery of kilns shortly. All machinery will be electrically driven. The plant is located adjacent to the Southern Railway and a side track has been constructed to serve it.

Officers of the Cherokee Brick Co. are Roy M. Newman, president; C. E. Campbell, vice-president, and J. C. Wright, secretary-treasurer.

North Carolina Pine Report.

The North Carolina Pine Association reports as follows on 45 mills for the week ending July 7:

	Total Feet
Orders	3,589,589
Shipments	6,093,994
Production	7,407,593
Normal Production	12,768,000

The orders were 41 per cent below shipments, 51 per cent below actual production and 71 per cent below normal production. Shipments were 19 per cent below actual production and 52 per cent below normal production. Actual production was 42 per cent below normal. The week shows a decrease in orders of 1,616,621 feet or 31 per cent.

LUMBER AND BUILDING MATERIALS

Holidays and Mill Repairs Curtail Lumber Movement.

Washington, July 12.—The nation's lumber movement for the week ending July 7, as reflected by reports from 392 of the larger commercial mills of the country shows a marked decline from revised reports for the preceding week from 408 mills. Production fell off about one-third, shipments about the same, and orders declined by a sixth, but as compared with this time last year the movement as a whole is substantially larger. The declines in production and shipments are chiefly due to the summer "let up" and closing of mills for customary semi-annual repairs.

Unfilled orders of the two leading regional lumber groups, the Southern Pine Association and the West Coast Lumbermen's Association, are reported as 580,481,021 feet as against 601,166,429 for the preceding week; the figures being 326,018,981 feet for the West Coast for the preceding week and 316,284,089 for last week, while the Southern pine figures similarly are 275,147,448 and 264,196,932.

For all the reporting mills, shipments were 92 per cent and orders 85 per cent of production; the corresponding figures for Southern pine mills alone being 93 and 77, and for the West Coast mills 124 and 126. Grouping by themselves the 347 mills with an established normal production, actual production for the week was 74 per cent of normal, and shipments 72 and orders 66 per cent thereof.

The following figures give the summary of the lumber movement for last week, the corresponding week of 1922 and the preceding week of 1923:

	Past Week 392	Corresponding Week 1922 366	Preceding Week 1923 (Revised) 408
Mills			
Production	188,046,983	164,510,776	284,487,287
Shipments	173,451,837	161,756,252	256,060,910
Orders	160,497,639	160,665,513	192,972,469

The lumber movement so far this year as compared with the corresponding period of last year is as follows:

	Production	Shipments	Orders
1923	6,514,725,178	6,814,206,219	6,767,041,807
1922	5,422,581,777	5,517,000,127	5,896,381,042
1923 Increase ...	1,092,143,401	1,297,206,092	870,660,765

Reporting on the situation in Southern pine territory the Southern Pine Association telegraphs from New Orleans that

unfavorable weather for logging and last week's holiday are reflected in decreases of 11 per cent in production and 9.4 per cent in shipments of Southern pine as compared with previous week. The decrease of 10 per cent in orders is attributed to the characteristic mid-summer lull. Only seven out of 78 mills giving their running time operated full or overtime.

From Seattle the West Coast Lumbermen's Association telegraphs that customary curtailed business incident to July holidays and the mid-year repair season is reflected in this week's statistics, but otherwise the figures are without special trade significance. Production for the 121 reporting mills was 34 per cent below normal; new business was 26 per cent above production and shipments were 2 per cent below new business. Of the new business taken during the week 45 per cent was for future water delivery, which amounted to 31,064,615 feet; of which 21,526,813 feet was for domestic cargo delivery and 9,537,802 for export. New business by rail amounted to 1132 cars. Of the week's lumber shipments 49 per cent moved by water, being 32,805,613 feet, of which 20,116,178 moved coastwise and intercoastal and 12,689,433 overseas. Rail shipments totaled 1025 cars. Unfilled domestic cargo orders total 136,186,170 feet; unfilled export orders are 60,857,919 feet and unfilled rail trade orders 5962 cars (approximately 119,240,000 feet.)

The California Redwood Association reports a curtailed volume of business due to a number of mills being shut down.

The Northern Pine Manufacturers Association wires from Minneapolis that most of its member mills were shut down from a few days to a full week before and after the Fourth of July.

Buys Timber Tract for Development.

Nadawah, Ala., July 17—[Special.]—The Nadawah Lumber Co. which operates a lumber mill here, has purchased timber 7,500,000 feet of growing pine timber in Dallas and Lowndes counties for development. It will be brought to Nadawah and manufactured at the local plant. L. J. Smith is vice-president and manager of the Nadawah Lumber Co. and K. E. Lockwood is the secretary and treasurer.

LUMBER MOVEMENT FOR TWENTY-SEVEN WEEKS, AND FOR THE WEEK ENDING JULY 7.

	Production		Shipments		Orders	
	1923	1922	1923	1922	1923	1922
Southern Pine Association:						
Total	2,011,978,536	1,906,059,523	2,116,901,252	1,948,884,113	2,009,217,688	2,071,271,904
Week (134 mills)	67,978,072	66,751,521	63,164,758	65,825,500	52,214,242	61,642,750
West Coast Lumbermen's Ass'n:						
Total	2,646,600,532	2,166,947,740	2,916,796,611	2,139,462,305	2,740,500,968	2,199,469,284
Week (121 mills)	54,681,616	54,544,318	67,620,806	56,491,176	69,089,808	67,145,564
Western Pine Mfrs. Association:						
Total	702,736,000	501,079,000	701,754,000	632,802,000	654,375,000	678,900,000
Week (42 mills)	25,838,000	20,006,000	13,719,000	16,721,000	16,575,000	13,175,000
Calif. White & Sugar Pine Mfrs.:						
Total	348,130,000	150,409,000	277,492,000	139,511,000	642,490,000	277,658,000
Week (15 mills)	14,566,000	2,839,000	7,278,000	1,461,000	6,904,000	888,000
Calif. Redwood Association:						
Total	233,478,000	198,836,000	246,712,000	187,331,000	252,020,000	192,321,000
Week (14 mills)	6,521,000	5,838,000	7,510,000	5,585,000	4,506,000	4,446,000
North Carolina Pine Association:						
Total	245,167,310	228,427,702	259,516,256	215,034,917	204,163,251	220,420,854
Week (36 mills)	6,343,695	4,564,152	4,801,473	5,183,751	2,629,589	3,808,199
Northern Hemlock & Hardwood:						
(Softwood) Total	68,634,000	52,714,000	71,466,000	70,356,000	65,822,000	69,613,000
Week (19 mills)	2,189,000	1,379,000	1,548,000	1,943,000	1,523,000	2,198,000
Northern Pine Mfrs. Association:						
Total	258,000,800	218,108,812	223,468,100	183,618,792	197,452,900	186,727,000
Week (11 mills)	8,049,600	8,588,785	5,067,800	8,545,825	4,884,000	7,362,000
General total for 27 weeks:						
(Softwood)	6,514,725,178	5,422,581,777	6,814,206,219	5,517,000,127	6,767,041,807	5,896,381,042
Northern Hemlock & Hardwood:						
(Hardwood) 27 weeks	89,627,000	80,056,000	72,947,000
General Total for Week	188,046,983	164,510,776	173,451,837	161,756,252	160,497,639	160,665,513

GOOD ROADS AND STREETS

Knox County Plans 40 Miles of Good Roads.

Knoxville, Tenn.—Plans have been outlined by the county court road committee for the construction of nearly forty miles of good roads in Knox County during the present fiscal year, thirteen of which will be built by workhouse forces.

These roads include 3 miles of the Pickens Gap pike, 1.5 miles of rock macadam on the Valley road, 6 miles of water-bound macadam on the Martin Mill pike from the Junction of Pickens Gap pike to the county line, 1.5 miles of carpet treatment of Pickens Gap pike, 4 miles of carpet treatment from Fountain City to Hall's Cross roads, 5 miles of carpet treatment of Kingston pike and 1.5 miles of carpet treatment of Concord pike to Prater's Ferry pike.

There will also be 1.5 miles of carpet treatment of Concord pike by way of the Methodist church parsonage to Cal Smith's residence, 1.5 miles of carpet treatment of Huffaker's Ferry Road to Kimberlin Heights, 4 miles of chert surfacing and grading on Hardin Valley road to the county line, 5 miles of carpet treatment on Ball Camp pike, 2 miles of reconstruction and carpet treatment of the Blue Grass and Ebenezer road, and 3 miles of reconstruction and carpet treatment of the Tuckahoe road. J. W. Spradlin is the superintendent of road construction.

Missouri May Build Two Cement Plants at Cost of \$2,000,000.

St. Louis, Mo.—It is announced here that a plan to reduce the high cost of cement for road construction is being considered by the State Highway Commission of which Theodore Gary of Kansas City is chairman. The plan involves the construction of two cement plants at a cost of \$2,000,000. The commission has requested bids for furnishing cement required by the state for road construction for the year 1924, the next three years or the next five years; bids for the construction of one or more cement plants to be operated by the state when completed, the State Highway Commission to furnish half the money for construction after contracts have been awarded; also bids for purchasing a cement plant within or without the state, the plant to be operated by the state through the commission.

Plan Special Road and Bridge District to Build Road and Causeway Costing \$384,000.

St. Petersburg, Fla.—An election will be held here on August 6 to pass upon the creation of a special road and bridge district centering around Pinellas Park, according to plans which have been adopted by the county commissioners. The creation of this district is for the purpose of financing the construction of a road from the Gandy bridge to the Seminole bridge and a causeway across Boca Ceiga to Long Key. It is estimated that the road will cost \$251,000 and the causeway \$133,000. Tentative plans provide for a 15-foot roadway of asphalt-topped macadam.

Citrus County Invites Bids for Over 80 Miles.

Inverness, Fla.—Sealed proposals will be received until July 31 by the Board of County Commissioners of Citrus County, J. K. Keeley, chairman, for constructing twelve roads ranging in length from two to twelve miles, and totaling more than 80 miles. The roads may be bid upon separately or as a whole, the work to include clearing, drainage structures, etc. Specifications may be secured from C. W. Schultz, clerk. B. V. Camp and associates of Atlanta and Jacksonville are the consulting engineers.

New Texas Motor Law Expected to Double Revenue—Total May Reach \$10,000,000 Annually.

Austin, Tex., July 16—[Special.]—It is estimated by the State Highway Department that the new motor fee law which went into effect June 14 will bring a revenue more than double that which was obtained under the old law. The total revenue expected from the new act is approximately \$10,000,000 annually, it is stated. Of this sum three-fourths goes to the state highway fund for the improvement and maintenance of state highways and the remaining one-fourth to the available school fund.

Under the new law motor vehicles are taxed according to hundredweight and also per horse power and no motor vehicle may be licensed when its gross weight, including load, is greater than 650 pounds per inch width of tire, or more than 6000 pounds on one wheel, or the body wider than 90 inches. Neither shall motor vehicles be operated upon the public highways with loads greater than 10 per cent in excess of their registered carrying capacity.

Texas Will Not Vote on Road Amendment.

Austin, Tex.—The election called for July 28 on a constitutional amendment seeking to authorize the State Highway Department to supervise construction and maintenance of the state highway system, can not be held on that date according to a ruling of the attorney general of the State. The opinion recites that, under the constitution, proposed amendments must be published once a week for four weeks beginning three months before the election. It is stated that this amendment was not sent out for publication until June 4.

It is also held that the election may not be postponed until a later date, because the law authorizing the submission of the amendment sets July 28 as the date for the election.

Georgia Lets Several Road Contracts.

Atlanta, Ga.—Contracts have been awarded by the State Highway Department for the following roads: Two projects in Hall County, to the Whitley Construction Co., La Grange, Ga., at \$32,346, for one mile of concrete and to R. G. Chambers of West Point, Ga., at \$129,940, for eleven miles of concrete, for 7.064 miles of penetration macadam in Ware County, Sam Finley of Atlanta received contract at \$91,456, and for 7.06 miles of asphalt in Dougherty County, the Ely Construction Co. of Augusta received contract at \$113,157.

Contract was awarded to O. A. Mann of La Grange at \$13,047 for approaches to bridge No. 1 and at \$112,880 for bridge No. 2.

\$387,000 Bonds Authorized to Build Road—Link Will Complete Old Spanish Trail.

Pascagoula, Miss.—The Mississippi State Highway Commission has authorized the road supervisors of Jackson County to issue bonds in the sum of \$387,000 to build the Ocean Springs link of the Old Spanish Trail, mention of which was made in the MANUFACTURERS RECORD last week. The road will be 12 miles long, of concrete construction, 18 feet wide, extending from Pascagoula to Ocean Springs.

Wants Bids on Three Miles of Road.

Logan, W. Va.—Sealed bids will be received by the Logan County Court, T. J. Wysong, Clerk, until July 26 for grading, draining and graveling three miles of road from Stirrat leading up Main Island Creek on State route No. 10. Plans and specifications are on file in the office of J. N. Smith, county road engineer at Logan.

Mississippi Wants Road Bids.

Jackson, Miss.—Contracts will soon be awarded by the State Highway Commission for a number of federal aid projects, including five miles of gravel road in Warren County, bids for which will be received by the board of supervisors of that county until August 2; for resurfacing a gravel road between Canton and Carthage, bids to be received until August 3 by the Madison County Supervisors at Canton; 8 miles of graded road between Grenada and Calhoun City, bids to be received until August 11 by the Grenada County Board of Supervisors, and for the construction of 1.5 miles of concrete, asphalt or brick road on the Old Spanish Trail at Biloxi, bids to be received until August 7 by the Harrison County Board of Supervisors.

Begin Construction on \$1,700,000 Road System.

Duncan, Okla.—Plans have been approved and work will begin on the improved road system for Stephens County, Oklahoma, which will involve an expenditure of \$1,700,000. Of the amount to be expended, \$800,000 has been provided by a bond issue, \$400,000 of which has been sold; \$800,000 will be federal aid funds and \$100,000 has been appropriated by the county commissioners.

The project provides for hard surfacing two north and south and two east and west roads across the county, and for the construction of lateral roads.

\$450,000 Bond Issue Voted for a \$900,000 Boulevard.

Daytona, Fla.—A bond issue of \$450,000 has been voted by Dayton Beach, Seabreeze and Ocean City for the purpose of building a 30-mile scenic highway or ocean shore boulevard from Ocean City in Flagler County to Mosquito Inlet.

The road is expected to cost \$900,000 of which one-half is to be raised by taxation of abutting property.

Will Expend \$200,000 on Twelve Street Projects.

Henderson, N. C.—At a recent meeting of the city council a decision was reached on various paving projects which will be undertaken and paid for by the third bond issue of \$200,000 which the city has provided for this purpose. A total of 12 streets will be paved with a hard surface, 24 sidewalks will be improved and curb and gutter work will be started. This is the third block of bonds which the city has issued for street improvements in the past twelve months.

Preparing Plans for 14 Miles in Owen County.

Frankfort, Ky., July 16 [Special].—Plans are being prepared by the State Highway Department at its office here for grading and surfacing the Owenton-Carrollton road in Owen County, a distance of 14.42 miles, the road to be of water-bound macadam or gravel surfacing, 14 feet wide. This is State project No. 59. Joe S. Boggs is the state highway engineer.

Notes on Good Roads Construction.

The Maryland State Roads Commission, John N. Mackall, chairman, Garrett Building, Baltimore, will receive bids until July 31 for the construction of 2.43 miles of concrete highway from Crellin to the West Virginia State line.

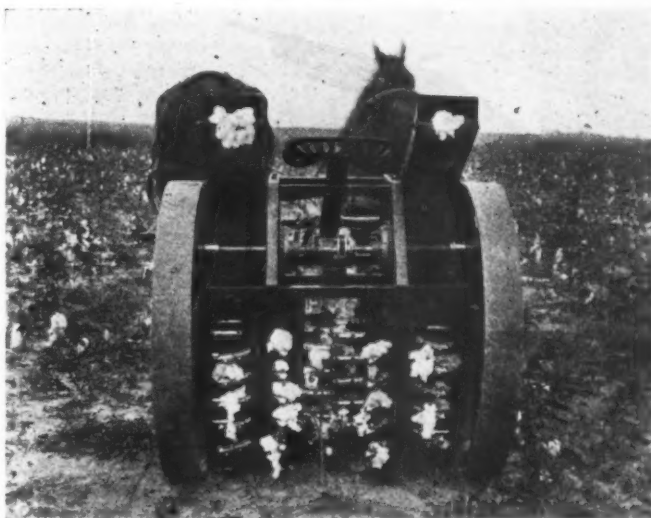
The city of Martin, Tenn. has awarded contract to Murphy & Hall of Martin for \$190,000 worth of improvements, including 10,000 square yards of rock asphalt, 115,000 square yards of penetration work, storm sewers and 50,000 lineal feet of curb and gutter. George M. Brooks, chairman of the street committee, and Mayo D. W. Harper will be in charge of the work.

MECHANICAL

New Cotton Picking Machine.

The picture herewith shows the Haring cotton picking machine as it appears in use, being readily drawn by a pair of horses, and P. P. Haring, of Dallas, Tex., says concerning his machine that it "has been developed and perfected after many years of effort and expenditure of large sums of money. The present one has been successfully used in the cotton fields, will pick a high percentage of open cotton without damage to the plants, and this cotton makes a grade equal to hand-picked. The machine weighs about eleven hundred pounds.

"The essentials of a successful and commercial machine for picking cotton," continues Mr. Haring, "are light weight, easy traction, simplicity in operation, durable materials, de-



COTTON PICKER AT WORK IN A FIELD.

tachable parts, dust-proof and oiled mechanism, and when driven in the field, to deliver a good grade of seed cotton into the basket with no injury to the foliage, unopened bolls or growing plant, and to cover from six to ten acres a day when drawn by a pair of horses, or twenty to thirty acres a day, when two or three of these machines are operated by means of a light tractor. These essentials are all contained in the invention.

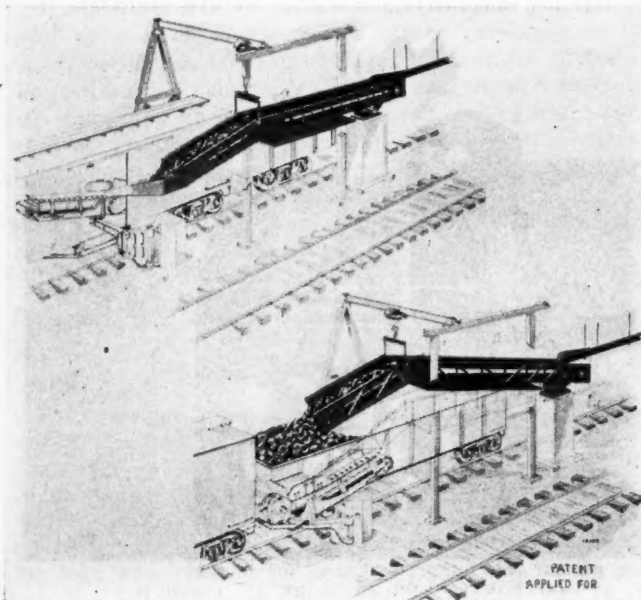
"This automatic machine for picking cotton is mounted upon two broad wheels and covers one row, the plant and cotton passing through the space in the center of the machine. On either side between the driving wheels are two belts of vertical metal slats. Upon each section or slat are mounted the fixed picker arms which at spaced intervals have revolving curved pickers. These metal belts turn towards each other and into the plant as the machine is in operation so that the slats, with the picker arms on them, after going rearward as far as possible, turn towards the wheels on their respective sides, pass over the conveyors, continue on the way and again emerge into the plant. The backward motion of these two vertical slat belts equalizes the movement of the machine as it moves forward, so that the cotton plant will retain its normal position and without injury as the machine goes over it.

"Just inside the wheels and under the lower picker arms on the slats on each side are located the two endless conveyors. The revolving curved pickers carry the seed cotton after it has been detached from the open bolls on the plant by them, to a point over the conveyors, and when in proper position the rotary movement reverses, cotton is thereby re-

leased and falls upon the conveyor, which carries the cotton forward and upward to a box or basket at the back of the seat for the driver. Power is derived from the driving wheels and transmitted by a cross shaft to the various simple mechanisms for operating the vertical metal belts, curved picker fingers in the arm, and for the conveyors to remove and dispose of the cotton after it has been picked."

Boom for Loading Cars.

The accompanying picture shows the uses of the new improved loading boom recently put out by the Link-Belt Company of Chicago and which has been named by the company "The Knox Gon-Box Loading Boom." The most important feature of this device is its extreme flexibility; it is able to swing and swivel with such freedom as to permit of loading either box or gondola cars, hence its name. If gondola cars



UPPER—LOADING BOX CAR. LOWER—LOADING GONDOLA CAR.

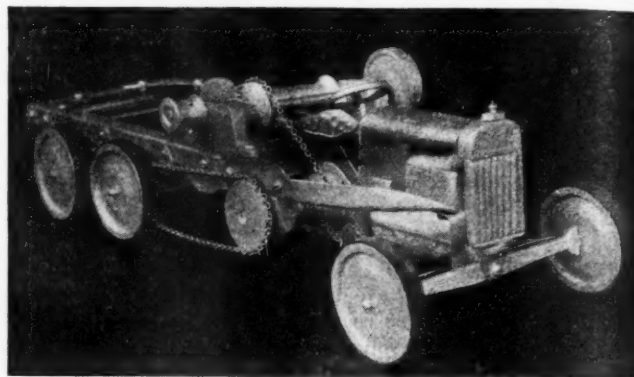
are being loaded the boom is swiveled over the center of the loading track. This will result in delivering the coal or other material to the center of the gondola car, the machine acting similarly to an ordinary boom, but when box cars are to be loaded the boom is swung parallel to the railroad track and it can deliver the material to the chute leading to the box car loader. Changes from box to gondola cars can be made readily and with ease. Owing to prevailing conditions the Knox loading boom will be limited largely to use in the western territory.

Truck Attachment for Tractors.

The picture herewith shows a tractor changed into a powerful truck of large dimensions by means of a demountable attachment lately patented by J. Franklin Bailey, 819 Maple St., Columbia, S. C., who says that the attachment can be made either two or four wheel drive. As shown here a power and hoisting rig is mounted on the attachment and this can be used for any purpose requiring power. While the illustration shows the attachment as applied to a Fordson tractor, it can be mounted on others. Mr. Bailey expects to begin manufacturing his device at an early date.

With this device Mr. Bailey further remarks, any make of wheeled tractor can be converted into a powerful, heavy duty truck in a few minutes and with very light changes, by taking off the tractor wheels and by using seven bolts. Thus a farmer can use his tractor for heavy hauling by converting it in this way into a truck, enlarging its scope of operation when it is not required in the fields. Moreover, the power

rig can be employed to drive a small saw mill, or a planer, or a thrasher or other machines which can be mounted on the truck and driven direct from the power rig. Therefore, a machine can readily be moved from place to place when need be under its own power and with its own mounting.



TRACTOR WITH ATTACHMENT AND POWER RIG.

The power rig is driven by a silent chain from the tractor, the power drive being on the side from which the belt is driven. The picture shows the drive chains exposed, but the machine will be built with these chains all enclosed.

This device as shown here can be used for heavy lifting or loading of all kinds, or it can be used for skidding logs out of bad places and dragging them up on the truck.

A Valuable Work on Taxation.

Jas. I. Tucker, consulting and appraisal engineer, Tradesmen's Bank Building, Oklahoma City, Okla., has written and published a valuable book of 332 pages entitled "Oil Valuation and Taxation," which treats of the federal income tax and its appraisal methods applied to the oil industry. While the work is principally and primarily for the use of companies and individuals interested in oil, from 60 to 70 per cent of the text, as Mr. Tucker remarks, is applicable to tax matters generally, without regard to oil or to any other particular business. Therefore, the little volume, (it is of such size that it can be readily carried in one's pocket), will be useful to the host of income tax payers everywhere in the country, besides being of extraordinary interest to the group including either oil operators or owners of oil royalties.

The contents are admirably arranged under chapter headings and by numbered paragraphs so that reference to it is facilitated. The author is well qualified for his work by reason of his profession and also through his previous books, which include "Contracts in Engineering" and "The American Road." This, his latest volume, is finely bound in morocco with gilt lettering and is therefore substantial and able to withstand the frequent use to which it must necessarily be subject.

Cost Accountants' Year Book.

The Year Book of the National Association of Cost Accountants, 130 West 42nd St., New York, contains the proceedings of the third international cost conference which was held at Atlantic City in September last in addition to much other reading matter of interest and value. The several articles which it also contains will be deeply appreciated by business men for the many important hints and suggestions which they embody as coming from the minds of individuals broadly qualified to give counsel concerning their respective subjects, each of which is comprehensive and painstaking throughout. The book is finely printed on good paper and is strongly bound in cloth. While it is distributed free to members of the Association, the price of the volume to non-members is \$3.

Construction Department

EXPLANATORY

Additional information is published about all enterprises mentioned in this department as soon as such data can be obtained. Further facts about any incomplete or incorrect item reported in these columns are always appreciated.

DAILY BULLETIN

The Daily Bulletin is published every business day to enable its subscribers to follow up promptly the industrial, commercial, railroad, financial, building and general business development of the South and Southwest. To machinery manufacturers and dealers, contractors, engineers, and others who require daily information of every new enterprise organized and details about important additions to enterprises already established, the Daily Bulletin is invaluable. Subscription price, \$20.00 a year.

Bridges, Culverts and Viaducts

Ala., Gadsden—State Highway Comsn. will rebuild two spans of Canoe Creek bridge on Gadsden-Birmingham highway; approximate cost \$25,000.

Ala., Tuscaloosa—County will receive bids until August 11 for concrete bridge 12 ft. long over Sank Thompson Branch on Keene's Mill Road. Woolsey Finnell, Chmn. of Board of Revenue, Tuscaloosa.

Fla., Clearwater—Pinellas County will receive bids until August 23 for construction of 7 concrete deck girder, 10 concrete flat slab and 1 creosoted timber bridges; also a 25 ft. single leaf steel lift span; will require 225,000 lbs. reinforcing steel; 7700 lin. ft. of wood foundation piles; 12,000 lin. ft. of creosoted timber piles; 375,000 F. B. M. creosoted timber bulkheads; 65,000 F. B. M. creosoted timber. C. E. Burleson, County Eng. (Lately noted bids open August 14.)

Fla., Daytona—Volusia County will receive bids until August 6 for construction of highway bridge across the Halifax river from Fairview Ave., Daytona, to Main St., Daytona Beach; 2300 ft. of 24 ft. trestle, one 55 ft. draw span and 150 ft. of stone and embankment fill. Plans and specification at office of C. M. Rogers, Eng., Daytona, Fla. or Clerk of the Board of county commrs., S. D. Jordan, Deland, Fla.

Fla., Sebastian—State Road Dept. let contract for concrete bridge over Sebastian River at Sebastian on state road No. 4 to A. Bentley, Jacksonville, Fla. at \$175,000.

Fla., Titusville—Brevard county Commrs. will receive bids until August 7 for furnishing all labor, materials, equipment and other things necessary for construction of a steel draw bridge across the Haulover Canal at Allenhurst, Fla. Plans and specification at office of County Commrs., Titusville or Henry B. Smith, Eng., Titusville.

Georgia—State Highway Dept. let contracts for projects as follows: No. 395, Pierce-Ware Counties, concrete bridge over Satilla river, contract No. 1, for approaches to bridge to A. Mann, LaGrange, Ga. at \$13,047.65; contract No. 2, also let for bridge proper \$112,880.79. (Lately noted.)

Miss., Port Gibson—For full details see Road and Street Construction.

Mo., Carthage—State Highway Comsn. received low bid from the Carterville. Construction Co., Carterville, Mo. for construction of new bridge over the mill race north-east of city.

N. C., Columbus—Board of Road Commrs., Polk County, receives bids until Aug. 6 to construct steel bridge, one span 125 ft., one span 75 ft. long; 16 ft. roadway, 12 tons loading; state complete plans, specifications, weights, and prices; delivery f. o. b. Tryon,

N. C.; W. N. Willis, Engr., Spartanburg, S. C.

S. C., Anderson—State Highway Comn. received low bid from Columbia Road and Drainage Construction Co. at approximately \$21,000 for construction of bridge and culvert lower end of Abbeville road, N. S. Anderson, State Highway Comn. (Lately noted.)

Tex., Austin—Board of County Commrs. let contract to R. G. Buckner, McDade, Tex. at \$10,036.86 to construct reinforced concrete bridge over Little Walnut Creek on the Manor road.

Tex., Austin—Travis County plans grading and constructing concrete drainage structures on 8 ml. of the Austin-Fredericksburg Highway between Oak Hill and the Hays County line; estimated cost \$38,000; O. Leonard, County Eng., Austin, Tex., and Geo. S. Matthews, County Judge.

Tex., Houston—Chamber of Commerce interested in construction of bridge connecting the north and south side terminals on the Ship Channel at a point between the last line of wharves and the Southern Pacific tracks. Address the Sec., Chamber of Commerce.

Tex., Junction—Kimble County plans 120-ft. concrete bridge of 6-20 ft. spans over Bear Creek west of Junction on State Highway No. 27; estimated cost \$8000; W. E. Simpson, County Engr., 414 National Bank of Commerce Bldg., San Antonio, Tex., W. H. Baker, County Judge, Junction, Tex.

Tex., Leakey—State Highway Dept. plans grading and constructing bridges and culverts on 18 ml. of the Kerrville-Rock Springs Highway in Real County; approximate cost \$70,000; formal application for \$35,000 Federal Aid; W. E. Simpson, County Eng., National Bank of Commerce Bldg., San Antonio, Tex., and J. L. Youngblood, County Judge, Leakey, Tex.

Va., Suffolk—Nansemond County, Board of Supervisors will receive bids until July 21 for building a bridge at Cross Mill Run; plans at Clerk's Office, Board of Supervisors.

Canning and Packing Plants

Fla., Tampa—Florida Citrus Exchange plans to construct 10 additional grapefruit canning plants.

Md., Annapolis—Eugene Thomas and others interested in establishing canning plant.

S. C., Woodruff—Woodruff Canning Co., incorporated with W. W. Anderson, Pres.; L. W. Gray, Sec.

Clayworking Plants

Tex., Dallas—Phoenix Brick & Tile Co., capital \$40,000, incorporated by C. W. Martin, H. E. Spafford, P. S. Russell.

Coal Mines and Coke Ovens

Ky., Barbourville—Gilden-Decker Coal Co. increased capital from \$10,000 to \$50,000.

Ky., Livingston—Hampton Coal & Phosphate Co., incorporated by Geo. Hamburg, R. L. Crawford, E. M. Nelson.

Md., Baltimore—Roberts Coal Mining Co., 901 Maryland Trust Bldg., incorporated by R. Baily and Edwin N. Chapman and others.

Va., Lynchburg—Princess Pocahontas Coal Corp., capital \$400,000, incorporated with Randolph Harrison, Pres.; G. H. Wilkins, Sec.

Va., Pearisburg—Buchanan Coal Land Corp., capital \$100,000, chartered with W. H. Buchanan, Pres.; F. E. Snidow, Sec.

W. Va., Charleston—Dell Coal Co., capital \$50,000, incorporated by E. D. Haywood and F. L. Thomas, both Charleston; J. M. Hopkins, Danville, W. Va.

W. Va., Clarksburg—Sandor Coal Co., capital \$50,000, incorporated by J. A. Sandor, Grafton, W. Va.; J. E. Kennedy, Fairmont, W. Va. and others.

W. Va., Wheeling—Glen Valley Coal Co., capital \$50,000, incorporated by A. S. Burger, Alex. Peterson, A. E. Bryant.

Concrete and Cement Plants

Md., Baltimore—Concrete Garage Mold Corp., 428 E. Saratoga St., capital \$200,000, incorporated by Louis A. Spellshouse, Albert A. Blakeney, Robert G. Harrison; will manufacture knock-down molds, frames, etc., used in erection of garages.

Mo., St. Louis—State Highway Comn., Theodore Gary, Chmn., of Kansas City, Mo., is considering building cement manufacturing plants, estimated cost \$2,000,000. In accordance with plans the Comn. prepared requests for bids on following proposals: To furnish cement required by the state for road construction for year 1924, the next three yrs. or the next five yrs.; for construction of one or more cement plants to be operated when completed by the State, the Highway Comn. to furnish 50 per cent of the money required; to purchase cement plant within or without the state, plant to be operated by the state through the Highway Comn.

Okla., Tulsa—Bradbyer Dunntile Mfg. Co., L. J. Campbell, Sec., 17 So. Zuni St., will erect 100x100x20 fireproof building for the manufacture of building tile, drain, silo, and roofing tile; will install standardized automatic mch.; cost \$10,000; Hawthorne roofing tile machine and equipment; elevators and conveyors for handling sand, gravel and cement; W. E. Dunn Mfg. Co., Constr. Engr., Holland, Michigan. Lately Noted. (See Machinery Wanted, Elevators, Conveyors.)

Cotton Compresses and Gins

Ark., Beech Grove—Planters Gin Co., J. E. Winn, Mgr., lately noted to erect gin has under construction cotton gin, main building 24x73 ft., seed house 18x36 ft., cotton house 24x40 ft.; iron siding and roofing; output 40 bales daily; will install three 80 saw

stand, boiler and engine, etc.; equipment purchased.

Mo., Marston—Marston Custom Gin. Co., capital \$10,000, incorporated by J. K. Robbins, W. M. Hoffman, C. M. Barnes.

Tenn., Paris—Currier Cotton Gin Co. will erect gin.

Tex., Cisco—Moss Gin Co., capital \$24,000, incorporated by R. M. Simmons, D. J. Moss, J. W. Simmons, Jr.

Tex., Lavon—Farmers Gin Co., incorporated by S. W. Silby, W. F. Wallace, Earl Hogge.

Cottonseed-Oil Mills

Miss., Jackson—J. W. Tuberville of New York and George W. Covington of Hazlehurst, Miss. acquired plant of Mississippi Cotton Oil Co.

Drainage and Irrigation

Ark., Blytheville—Mississippi County Drainage Commrs., J. E. Simonson, Chmn., Luxora, Ark., will construct about 75 canals, drag line, floating dredge work; estimated cost \$200,000; will probably open bids Aug. 20; reclaiming 300,000 acres in Mississippi County for general agriculture.

La., Baton Rouge—Details under Sewer Construction.

La., Monroe—Tensas Basin Levee Association, J. W. Summerlin, Pres., Rayville, La., contemplates forming drainage district to be composed of eight northeast Louisiana Parishes; will issue approximately \$3,500,000 bonds to construct 75 mi. canal and drain 250,000 acres.

Miss., Corinth—White Oak, West Hatchie and Big Hatchie Drainage Dist. Commrs. let contract to McWilliams Co., Memphis, Tenn. to construct system in Alcorn and Tippah Counties; containing 246,327 cu. yds.; sold \$32,000 bonds.

Miss., Senatobia—Board of Drainage Commrs., Strayhorn Creek Drainage Dist. of Tate County, receives bids until July 24, to construct about 12½ mi. drainage canals, approximate quantities, 410,000 cubic yds. excavation of main canal, 111,000 cubic yds. lateral ditch; Southern Engineering Co., Engrs., Clarksdale, Miss.

Electric Light and Power Plants

Fla., Miami—Details under Land Development.

Fla., Miami—City let contract to Biscayne Electric Supply Co. at \$5685.75 to supply cast iron lamp posts for white way system on Collins Ave. and to Michaels & Co. of Norfolk, Va. at \$8,893.50 for supplying cable. (Lately noted.)

Fla., Orlando—Details under Land Developments.

Ga., Thomasville—Georgia-Alabama Power Co., of Albany, reported to be considering construction of high tension line between Pelham and Thomasville to furnish power to Thomasville.

Ky., Burnside—Cumberland Hydro-Electric Power Co., of Indianapolis, Ind., applied to Federal Power Comm., Washington, D. C., for permission to construct three power projects, two on the Cumberland River, above Burnside, and one on the south fork of the Cumberland River.

Ky., Danville—Dix River Power Co. and Midwest Utilities Co. of Chicago, Ill., are considering construction of dam across Dix River. (See Water Works.)

Md., Conowingo—The Susquehanna Power Co., Geo. Bullock, Pres., 61 Broadway, New York, has secured preliminary permit for \$40,000,000 hydro-electric development on Susquehanna river; dam will be concrete 3300 ft., approximate height 70 ft.; powerhouse will be located on west side of river and will be 115x660 ft.; will install ten 30,000 h. p. units generating approximately 1,000,000,000 k.w.h. annually; detailed plans and specifications are being prepared; no contracts have been let. (Lately noted.)

Mo., Higginsville—Kansas City Power & Light Co. has begun construction of tower, cost \$75,000; will install 6 transformers, etc.; reported to construct a large plant at Glasgow, Mo.; will distribute power to various towns including Blackburn, Sweet Springs, Mayview, Waverly, etc. (Lately noted.)

Mo., St. Louis—Details under Land Developments.

N. C., Asheville—Appalachian Power Co., capital \$1,000,000, incorporated with W. N. Garrett, Pres.; Fred A. Sale, Sec.

N. C., Oakboro—Oakton Power & Light Co., capital \$50,000, incorporated by J. A. Groves, E. E. Snuggs, W. C. Heath.

S. C., Charleston—Chamber of Commerce, Louis D. Rubin, Chmn., Lighting Comm., is having data prepared for complete street lighting system including white ways on important streets and better lighting for side streets that will cover a program of four years; report will be given to City Council in Sept. (Lately noted.)

Tenn., Chattanooga—City contemplates installing white way on Eighth St. Address The Mayor.

Tenn., Knoxville—Knoxville Power & Light Co. reported to shortly file application with Federal Power Comm. to develop 2 dam projects on Tennessee River below Knoxville;

have under consideration two sites one at Marble Bluff and the other at Coulter Shoals. (Lately noted contemplating development of 4 dams on Clinch River.)

Tex., Dallas—Dallas Light & Power Co. plans an immediate expenditure of \$250,000 for improvements to system, placing overhead wires underground, etc.; ultimate amount to be expended in next four years, \$3,000,000.

Tex., Houston—Houston Lighting & Power Co. will erect electrical substation on Yale St.; brick and concrete construction; 2 stories; cost about \$140,000.

Tex., Navasota—Western Public Service Co., home office, Colorado Springs, Col., has acquired the properties of the Calvert Water, Ice & Electric Co., which includes water, light and ice plant at Hearne, a transmission line from Calvert to Bremond; contemplate improvements.

Tex., Sanger—Details under Water Works. W. Va., Chelyan—Chelyan Electric, Water & Ice Co., increased capital from \$25,000 to \$50,000.

Fertilizer Plants.

N. C., Newbern—American Agricultural Chemical Co., 2 Rector St., New York, will re-open the Pocomoke Guano factory, will manufacture between 12,000 and 16,000 tons fertilizer annually; G. L. Lathan, Mgr.

Flour, Feed and Meal Mills

Ky., Berea—Goff Milling Co., incorporated by J. W. Goff, E. S. Bryant, G. T. Pemberton.

Md., Taneytown—Taneytown Grain & Supply Co., increased capital from \$20,000 to \$24,000.

Mo., Kansas City—Lathrop Marshall Grain Co., capital \$100,000, incorporated by W. B. Lathrop, H. G. and W. W. Marshall.

Mo., Springfield—Mead-Patterson Grain & Feed Co., capital \$100,000, incorporated by J. D. Mead, W. M. Patterson and others.

Mo., Springfield—Meyer Milling Co., Louis S. Meyer, Gen. Mgr., will enlarge mill; will increase capacity from output of 800 bbls. daily to 1200 bbls.; cost approximately \$50,000.

Va., Nohead—Community Mill Corp., capital \$15,000, incorporated with Robert Laws, Sec.

Foundry and Machine Plants

Md., Baltimore—S. B. Sexton Stove & Manufacturing Corp., 501 W. Conway St., incorporated by Wm. B. Macmillan, Harold Tschudi, Matthew Gault; continue existing business.

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MANUFACTURERS RECORD

BALTIMORE, MD.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Md., Baltimore—Reliance Pump & Machine Co., 120 S. Calvert St., capital \$50,000, incorporated by C. Braxton, Dallam, Eben J. B. Cross, E. Ridgley Simpson; manufacture pneumatic pumps, etc.

Tex., Dallas—Sutton, Steel & Steele have under construction \$175,000 steel foundry building, installing latest improvements including lectromelt furnace built by the Pittsburgh Electric Furnace Corp., Pittsburgh, Pa.; will manufacture fine steel castings, both plain carbon and alloy steels, monthly capacity 150 tons.

Tex., San Juan—Orchard Fire Pot Foundry Co., Banks L. Miller, Mgr. will erect 36x70-ft. fireproof plant; install equipment; daily output 200 to 400 fire pots. (See Machinery Wanted—Foundry Supplies and Equipment; Iron (Galvanized).)

Gas and Oil Enterprises

Arkansas—Barclay Petroleum Corp., 35 Wall St., New York, is preparing to develop natural gas properties in the Mid-Continent field; will build central distributing plants in Arkansas, Louisiana and Texas.

Miss., Hattiesburg—Cotton States Oil Co., capital \$150,000, incorporated by B. D. Moore, H. Watkins, R. G. Wooten.

Miss., Laurel—Magnolia Holding & Development Co., capital \$25,000, incorporated by T. W. Yates, D. B. Fox and others.

N. C., Stony Point—Stony Point Oil Co., capital \$100,000, incorporated by N. F. Steele, A. L. Watts and others.

Okla., Tulsa—Mackay Oil Co., capital \$100,000, incorporated by E. J. Lundy, L. E. Curran, R. E. Morgan.

Okla., Tulsa—Buckeye Drilling & Development Co., capital \$100,000, incorporated by John and Earl Wilson, Gordon Wright.

Tex., Eastland—Arab Gasoline Corporation, Horace Butler, V. P., let contract to Frank Dalton for railroad siding and to A. F. Mueller for excavation and foundation for casinghead gasoline plant; approximately \$900,000 will be expended for gasoline plant and carbon black plant in connection with casinghead gasoline plant, cost of each plant \$450,000; gasoline plant will have capacity of approximately 15,000 gals. daily and about 11,000,000 cu. ft. of gas; machinery purchased. (Lately incorrectly noted at La., Monroe.)

Tex., Eastland—Benwick Gasoline Co., Box 962, Louis Bender, Pres.; J. W. Chadwick, Sec.; will construct fireproof gasoline absorption plant; will install three 10,000 horizontal storage tanks; Chadwick & Bendit, Constr. Engr., Kansas City, Mo. (See Machinery Wanted—Storage Tanks.)

Tex., Graford—City Council granted franchise for constructing pipe line.

Tex., Hearne—Humble Pipe Line Co., reported to construct refinery with capacity 35 tank cars.

Tex., Houston—Thornton Oil & Refining Co., capital \$100,000, incorporated by Dr. P. B. Thornton, H. J. Burkett, C. N. Phillips.

Tex., Laredo—Esparanza Oil Corp., capital \$9000, incorporated by L. B. Flick, F. W. Tong, H. P. Coupe.

Tex., Rockdale—Lee House Oil Co., capital \$48,000, incorporated by J. E. Lee, T. Y. McCormick, J. E. Willoughby.

Tex., San Antonio—Lavernia Oil & Gas Co., capital \$25,000, incorporated by J. M. Cunningham, G. W. Biegler, O. G. Skelton.

W. Va., Charleston—Phoenix Oil & Gas Co., capital \$25,000, incorporated by H. H. Corrie, Haward Ball and F. L. Thomas.

W. Va., Charleston—Clayco Gas Co., subsidiary of South Penn Oil Co., has option

on 6 acres as probable site for booster station; 72-mi. pipe line will be laid from Minnora to Barren Creek; cost about \$1,000,000.

W. Va., Charleston—Gale Oil Co., capital \$50,000, incorporated by E. Hermann, Geo. H. Williamson, Joshua Davis.

Ice and Cold-Storage Plants

Ala., Eufaula—S. A. Toy and Elles Ragin, acquired established plant, will probably add cold storage department.

Ark., Leachville—Leachville Ice Co. reported to erect ice storage plant, has acquired site.

Fla., Sulphur Springs, Sta. Tampa—Consumers Ice Co., Tampa, has plans for the establishment of branch plant, daily capacity 30 tons.

Ga., Rome—Ford Livestock Co. will erect ice and packing plant.

Ga., Waycross—Kinnett Odum Ice & Ice Cream Co., of Macon, Ga., will erect branch plant.

Mo., Kahoka—Kahoka Pure Ice Co., J. W. Meyer, Pres., plans establishing ice plant.

Mo., St. Louis—St. Louis Dairy Co. reported to expend \$100,000 on the erection of dairy and ice cream plant.

Okla., Sand Springs—Sand Springs Ice Co. will erect plant addition.

Tex., Athens—Athens Ice & Cold Storage Co. contemplates erecting 25 ton daily capacity ice plant.

Tex., Galveston—Magnolia Ice & Cold Storage Co. (lately noted incorporated, capital \$50,000) has acquired holdings of the Houston Ice & Brewing Co.; will continue existing business.

Tex., Wichita Falls—Peoples Ice Co. will increase plants capacity to 100 tons daily.

W. Va., Clarksburg—Butler Ice Co., capital \$150,000, incorporated by G. A. Williams, W. M. B. Sine, Chas. W. Louchery.

Land Development

Ala., Bessemer—Bessemer Coal, Iron & Land Co. is preparing to develop 800 acres for subdivision.

Ala., Birmingham—McDavid Real Estate and Insurance Co., incorporated by E. R. McDavid, Jr., F. H. McDavid and others.

Ala., Huntsville—Chamber of Commerce is having surveys made and taking options in bottom lands of the public square for park project; will install large lake, swimming pool, outdoor amusements, etc.

Ala., Montgomery—Gay-Teague Realty Co., increased capital from \$185,000 to \$300,000.

Ala., Theodore—The Carol Plantations, Inc., capital \$500,000, incorporated by Jonathan Bourne, Jr., Theodore; Arthur H. McConville, Washington, D. C.; Charles E. Hatfield, Newton, Mass.

Ark., Little Rock—City Council passed ordinance appropriating \$300,000 for purchase and equipment of park site. H. G. Leiser and George R. Gay, Park Comm.

D. C., Washington—Lyon Park Realty Corp., organized with Frank Lyon, Pres., Colorado Bldg., Chas. W. Smith, Sec.

Fla., Apalachicola—William Lee Popham acquired St. Vincents Island and will develop.

Fla., Jacksonville—Brooks Sales Corp., capital \$30,000, incorporated with Fred P. Brooks, Pres.; Wm. H. Clark, Sec.

Fla., Miami—Hillsborough Beach Development Co., lately noted incorporated with \$100,000 capital, Franklin M. Thompson, Pres., has acquired 115 acres of land including frontage on Hillsborough Bay and will develop for homesites; will pave streets,

construct cement walks, install electric lights, water, sewer, etc.; erect hotel, casino and amusement park; County Engineer Davis, Ft. Lauderdale, Fla., is in charge of engineering work.

Fla., Orlando—Orlando Golfers Assn., lately noted incorporated with \$150,000 capital, W. D. Rogers, Pres.; J. R. Asher, Sec.; will develop 275 acres for golf course, club house and 500 city lots; will install electric lights, sewer system, water works, brick and clay roads and streets; will expend about \$100,000; plans not matured for club house and grill; golf course under construction.

Fla., Palm Beach—Details under Miscellaneous Construction.

Fla., Stuart—Lafayette Cooke of Odenville, Ala., has acquired 500 acres at Boca Ratone and will develop for townsite; will expend \$25,000 this summer in clearing land and constructing roads and sidewalks.

Ga., Valdosta—Details under Water Works.

La., Baton Rouge—Details under Sewer Construction.

La., Baton Rouge—Jefferson Land Co., capital \$70,000, incorporated with Chas. Roseman, Pres.; Lillian Roseman, Sec.-Treas.

La., Elizabeth—R. Bruce Brough has acquired 2000 acres of land; will develop 1000 acres in pecans this fall, later will develop remainder of tract.

Md., Baltimore—Stewart Realty Corp., Howard & Lexington Sts., capital \$1,500,000, incorporated J. Ira Middleton, J. Harry C. Sauer, T. Harry Crum.

Md., Baltimore—Middleview Realty Co., Room 30, State Bank of Maryland Bldg., incorporated by John Schehlein, Joseph C. Deegan and Sebastian Linz.

Md., Baltimore—Club Realty Co., 220 St. Paul St., capital \$20,000, incorporated by Henry Rockel, George H. Leimkuehler, and others.

Md., Baltimore—The Hearst Tower Realty Co., Tower Bldg., capital \$100,000, incorporated by Jesse Slingluff, Clarence W. Sharp, L. Vernon Miller.

Md., Baltimore—Keating Realty Corp., 12 E. Lexington St., increased capital from \$100,000 to \$110,000.

Md., Baltimore—Longacre Land Co., Fleet and 25th Sts., capital \$18,000, incorporated by George Long, Rose Keeney and others.

Md., Bethesda—Bradley Hills Syndicate, Inc., capital \$300,000, incorporated by Allen L. Hawse, Marshall Whitlich, James H. Starkey.

Md., Easton—Realty and Mortgage Co., capital \$10,000, incorporated by Howard Towers, Chas. O. Golt, Geo. L. Walker.

Md., Pasadena—Fair View Realty Co., capital \$40,000, incorporated by Harry M. Efford, Robert W. Bottomley, Chas. F. Efford.

Md., Pocomoke City—Community Development Corp., capital \$100,000, incorporated by Milton L. Beasey, John W. Staton and others.

Mo., St. Louis—Hacker Realty Co., capital \$6000, incorporated by J. M. Hacker, and others.

Mo., St. Louis—Guaranty Investment Co., will develop Crestmont Park for sub-division; will construct gravel avenue with 14 ft. sidewalks; install water, sewer, lights, etc.; cost about \$45,000; Alfred F. Theard, Supv. Engr.

N. C., Charlotte—Nassau Land Co., capital \$100,000, incorporated by U. S. Goodee, F. E. Robinson, T. D. Newell, Jr.

N. C., Hendersonville—A. T. Barkdull of Barkdull Investment Co., Miami, Fla. has acquired tract of land and will develop as Miami Terrace, a subdivision.

N. C., Wilmington—Moore-Finvielle Realty Co., capital \$100,000, incorporated by I. W. Moore, W. A. Fonvielle, W. D. Jones.

S. C., Charleston—C. D. Franke & Co., Realty & Warehouse Corp., capital \$10,000, chartered with Julius H. Jahnz, Sr., Pres., Geo. W. Bowers, Sec.

Tex., Houston—Post Fig & Farms Co., incorporated by J. G. Brock, R. D. Gambill, S. H. Benbow.

Tex., Taylor—City votes Aug. 7 on \$50,000 bonds for purchase and improvement of Murphy Park and construction of swimming pool. Address City Commrs.

Va., Alexandria—Lafayette Park Development Co., capital \$25,000, incorporated with Henry I. Quinn, Pres.; H. P. Rawlings, Sec., both Washington, D. C.

Va., Alexandria—Brooke-Mason Riter Farm Co., capital \$50,000, incorporated with M. R. Callahan, Pres.; W. P. Wells, Sec.

Va., Bristol—Lee Heights Corp., capital \$300,000, incorporated with Lee Long, Pres., Dante, Va.; Henry Roberts, Sec., Bristol.

Va., Norfolk—Southland Holdings Corp., capital \$100,000, chartered with Paul F. Murray, Pres.; Hubert S. White, Sec.

Va., Norfolk—Skinner Realty Corp., capital \$50,000, chartered with W. S. Morris, Jr., Pres.; Edith C. Skinner, Sec.

Va., Norfolk—Oceana Realty Corp., lately noted incorporated with \$25,000 capital, Abbott Morris, Pres. will develop 60 acres; construct streets, buildings, etc.

Va., Petersburg—Gresham Place, Inc., capital \$25,000, chartered with Julian R. Gresham, Pres.; Harry L. Smead, Sec.

Va., Pulaski—Home Building Corp., capital \$50,000, chartered with E. W. Calfee, Pres.; W. W. Kave, Sec.

Va., Richmond—Monument Ave. Realty Corp., capital \$35,000, incorporated with L. W. Kline, Pres.; C. G. Kelly, Sec.

W. Va., Charleston—Security Land Co., capital \$25,000, incorporated by F. W. Goshorn, F. W. Shrewsbury, Wm. Kennedy.

W. Va., Charleston—Big Clear Creek Land Co., capital \$25,000, incorporated by George S. Couch, B. F. Ford and A. R. Purvis.

W. Va., Charleston—Big Coal Land Co., capital \$25,000, incorporated by H. S. Howard and D. S. Twohig, both Charleston; T. L. Vickers, Brushton, W. Va.

W. Va., Sabraton—Sabraton Improvement Co., capital \$25,000, incorporated by Angelo R. Guariglia, W. F. Naret and others.

Lumber Enterprises

Ala., Cullman—Oscar Lasseter has acquired 1500 acres timber land, will develop.

Ala., Nadawah—Nadawah Lumber Co., K. E. Lockwood, Sec.-Treas., has acquired 7,500, 000 ft. of growing pine timber in Dallas and Lowndes counties.

Ala., Opelika—Piedmont Lumber Co., capital \$100,000, incorporated with Charles H. Haynes, Pres., Cliffside, N. C.; O. B. Ingram, Sec., Auburn, Ala.; has taken over property of C. Y. Young Lumber Co. and will enlarge plant and install new machinery.

Ala., Tuscaloosa—Delma Lumber Co., incorporated by M. Copeland, Talmage Copeland and others.

Ark., Arkadelphia—Dona Hule will rebuild burned saw mill.

Fla., Bronson—Levy County Timber Co., capital \$50,000, incorporated with T. J. Cone, Pres.; T. L. Bates, Sec.-Treas.

Va., Lynchburg—Mosteller-Ward Lumber Co., capital \$50,000, incorporated with A. Lynch Ward, Pres.; V. E. Rentrop, Sec.

W. Va., Buckhannon—Yomack Lumber Co., capital \$75,000, incorporated by W. T. McWhorter, C. K. McCally and others.

W. Va., Wheeling—R. R. Kitchen, Contractor, has acquired property of the Beltz Planing Mill at 19th and Eoff St.; will probably continue mill operations.

Mining

Ark., Walnut Ridge—Clay, etc.—C. N. Grayson and Ira Walker, both Poplar Bluff, Mo., will develop potter's and china clay deposits; leased tract.

Ga., Atlanta—Southern Marble & Quarrying Corp., W. S. Lincoln, V. P. and Mgr. has purchased and leased approximately 1200 acres marble land, equipment purchased.

Mo., St. Louis—Riverside Coke and Iron Co., capital \$250,000, incorporated by E. F. Goltra, William Bagnell and others.

N. C., Canton—Big Cove Mining Corp., capital \$50,000, chartered by R. W. S. Pegram, Chas. M. Trull, and others.

Tex., Rockdale—Western Securities Co., J. G. Puterbaugh, Pres., McAlester, Okla., will develop 1330 acre deposit of lignite, from 8 to 15 ft. in thickness.

W. Va., Monroe County—Norfolk & Western Ry. Co., W. P. Wiltsee, Act. Chf. Engr., Roanoke, Va., reported to have acquired 32,000 acres ore land.

Miscellaneous Construction

Fla., Daytona—Details under Sewer Construction.

Fla., Daytona—Seawall, etc.—City contemplates building 4800 ft. of seawall in front of North Beach St., about 3000 ft. wall around the City Island in Halifax river and about 4000 lin. ft. of bulkhead in Halifax river at Rio Vista. Address The Mayor.

Fla., Miami—Mausoleum—Miami Memorial Mausoleum, incorporated with W. H. Combs, Pres.; will erect mausoleum, marble and concrete construction, containing two corridors with marble underfoot and overhead, capacity 500 crypts; estimated cost \$207,000.

Fla., Palm Beach—Seawall, etc.—City will vote Aug. 14 on \$220,000 bonds as follows: \$25,000 for equipping and maintaining fire department and completing installation of high pressure water system; \$100,000 for erection of seawalls as required; \$14,000 for completing memorial library; \$6000 to create a revolving lot cleaning fund; \$25,000 for public park improvements; \$30,000 to establish city athletic field; \$20,000 to purchase 20 ton incinerator. George L. Wright, City Manager.

La., Baton Rouge—Terminals—Details under Sewer Construction.

La., Houma—Canal—Grant-Smith Co., Raceland, La. received contract to construct portion of Intra-Coastal canal through Terrebonne Parish.

Md., Annapolis—Navy Dept., Bureau of Yards and Docks, Washington, D. C. let contract to Boyle-Robertson Construction Co., Washington, D. C. at \$305,820 to construct 289x98.4 ft. natatorium, fireproof construction, at United States Naval Academy.

Miss., Vicksburg—Seawall—City will probably let contract to Jefferson Construction Co., New Orleans, La. to construct seawall along the river front, approximately 4200 lin. ft. of wall containing 9500 cu. yds. con-

crete, 1450 tons reinforcing steel and 4200 lin. ft. of interlocking sheet piling 10 to 20 ft. long; Miller-Butterworth Co., Engers, 624 Southern Trust Bldg., Little Rock, Ark.; J. J. Hayes, Mayor. (Lately noted.)

Tex., Austin—Levees—Engineers of the U. S. Reclamation Service made surveys and recommended a \$12,000,000 project, constructing a system of levees to control the flood waters of the Rio Grande River along its lower course.

Tex., Avalon—Ellis County Levee Improvement District No. 11, let contract to Trinity Farms Construction Co., 1004 S. W. Life Bldg., Dallas, to construct 370,000 yards of earth levee. (Lately noted voting \$52,000 bonds.)

Tex., Galveston—Jetties—U. S. Engineer Office opened bids for the extension of jetties and making necessary repairs to existing jetty, will probably let contract to D. Picton & Co., Port Arthur, Tex. at \$291,070.

Tex., Houston—Wharf—Southern Stevedoring & Contracting Co., Charles Elkle, Pres. has proposed the building of a \$250,000 wharf adjoining the municipal wharf at Manchester and which at end of 10 yrs. will become property of city; site of proposed construction is owned by city and under lease to the navigation and canal commission.

W. Va., Shinnston—Crematory—City contemplates building \$25,000 crematory. Address The Mayor.

Miscellaneous Enterprises

Ala., Atmore—White House Mill & Farm. H. L. Ramsey, Propr. will establish small creamery and ice cream plant, will install freezer, tester, refrigeration outfit, etc. (See Machinery Wanted — Refrigeration Outfit; Creamery Equipment.)

Ala., Birmingham—Hagan-Smyer Drug Co., incorporated by Garrett Hagan, Sydney W. Smyer, Frank Bainbridge.

Ala., Birmingham—Highways Advertising Co., capital \$10,000, incorporated by E. L. Higdon, E. L. Higdon and others.

Ala., Gadsden—Gadsden Electric Sign Co., incorporated by W. A. Smith, J. B. Anderson, M. B. Woods.

D. C., Washington—Lank & Muntyan, Inc., capital \$50,000, incorporated by Alvin V. and Henry C. Lank, Daniel Muntyan.

D. C., Washington—Standard Train Control Corp., incorporated by E. C. Simmons, Hugh M. Sterling, both Washington; Charles A. M. Wells, Hyattsville, Md.

Fla., Delray—Delray Theatre Co., capital \$25,000, incorporated with E. H. Stock, Pres.; John W. Hall, Sec.-Treas.

Fla., Jacksonville—Florida Steel & Wire Co., John G. Palmer, Gen. Mgr., corner E. Beaver & Van Buren Sts. has leased plant will install nail machines and wiring drawing blocks. Lately noted. (See Machinery Wanted — Nail Machines; Wire Drawing Blocks.)

Fla., Orlando—Potter Candy Co., capital \$50,000, incorporated with Clark Potter, Pres.; Charles C. Potter, Sec.-Treas.

Fla., Palm Beach—Fire Fighting Equipment—Details under Miscellaneous Construction.

Fla., St. Augustine—C. F. Hamblin, capital \$100,000, incorporated with G. S. Meserve, Pres.; Evelyn M. Hamblin, Sec.

Fla., Tampa—Carruthers Printing Co., capital \$10,000, incorporated with Carter Johnson, Pres.; J. I. Carruthers, Sec.

Fla., Tampa—Dixie Candy Co., capital \$25,000, incorporated with Thomas P. Matthews, Pres.; R. M. Halbontin, Sec.

Ga., Pelham—Georgia Yam Curing Co. of Atlanta, Ga., John M. Manget, Pres., will establish potato curing plant.

Ga., Waycross—John H. King, Jr., of the King Bros. Motor Co., will lease building for the establishment of creamery, will install small churns and butter moulding machine. (Lately noted.)

Ky., Ashland—Grayson & Drissel Manufacturing Co., capital \$20,000, incorporated by Charles L. Grayson, John B. Drissel; manufacture gas stoves, etc.

Ky., Columbia—Durham—Fraser Co., increased capital from \$25,000 to \$30,000.

Ky., Louisville—Chesterfield Shirt Co., capital \$10,000, incorporated by S. Goldstein, Hattie Marlin and others.

Ky., Louisville—Louisville Kiln Drying Co., 9th and Magnolia (lately noted incorporated, capital \$20,000) organized with A. E. Norman, Jr., Pres.; R. A. Rood, Sec., will erect 60x42-ft. hollow tile building. (See Machinery Wanted—Rails.)

Ky., Middlesboro—Effron & Siegel, capital \$12,000, incorporated by Hyman Effron, Harry H. Siegel and others; manufacture shoes, etc.

La., Baldwin—Community Mfg. Enterprise, Inc., increased capital to \$30,000.

La., Baton Rouge—Details under Sewer Construction.

La., Morgan City—Gulf Crushing Co., Inc., 816 Howard Ave., New Orleans, La., let contract to Doullut & Williams Co., Inc., to erect crushing plant; mill construction; capacity 175 tons every ten hours; will install crushing machinery, conveyors, dryers, Diesel engine, etc. cost approximately \$40,000; John Scott, Constr. Engr., Morgan City.

La., New Orleans—New Orleans Corrugated Box Co., capital \$500,000, organized by merging of the Union Paper Products Co., Inc. and the New Orleans Corrugated Fibre Box Co.; Sam Ohnstein, Pres.-Mgr.

Md., Baltimore—American Wholesale Corp., 200 W. Baltimore St., reported to erect 2-story factory building, having 120,000 sq. ft. floor space for the manufacture of shirts and overalls.

Md., Baltimore—Har-Del Music Publishing Co., George F. Lurasen, Pres., 606 N. Fremont St., establish plant for the manufacture of music rolls, present daily output 1000 rolls.

Md., Baltimore—Premier Hat Co., Riddlemose Bldg., capital \$100,000, incorporated by George H. Struven, Wm. F. Hurst, Elias Simon.

Md., Baltimore—American & African Navigation Co., 1431 Laurens St., capital \$300,000; incorporated by Boston Allen, Wm. H. Richardson, Edward Burton.

Md., Baltimore—Acme Broom Supply Co., 314 Guilford Ave., capital \$50,000, incorporated by Richard T. Norris, Robert H. Carr, Benjamin Kahn.

Md., Baltimore—Klauff Co., Osten St. and Burgundy Alley, capital \$100,000, incorporated by Harry Klauff, Peter J. Darby, Myer Rosenbush.

Md., Baltimore—Buchanan & Laying Corp., 825 Equitable Bldg., incorporated by Wm. H. Price, Jr., Wm. D. Macmillian, Joseph T. Brennan.

Md., Baltimore—Atlantic Southwestern Broom Co., 2nd and Toone St., will erect 3-story brick addition, 87x95-ft., steam heat, cost \$21,000; H. E. Fisher, builder.

Md., Baltimore—Cast Stone Products Co., 525 Munsey Bldg., incorporated by Abram Moses, Irvin J. Smith, Briscoe L. Gray.

Md., Baltimore—John H. Dockman & Son,

Inc., 812 Light St., incorporated by John H. and Louis A. Dockman; manufacture candy.

Md., Dundalk—Dundalk Roads & Maintenance Corp., chartered by John Tevis Harwood, Roland Park; Edward H. Bouton, Carroll S. Gorman.

Md., Frederick—Price Brothers, Inc., increased capital to \$200,000.

Md., Germantown—Germantown Milk Producers Incorporated by Elias Dorsey King, Joseph G. Howes and others.

Md., Hagerstown—Southern Gateway Corp., 26 S. Johnathan St., capital \$100,000, incorporated by Noah W. Myers, Geo. W. Rohrer, Amos S. Keener.

Miss., Belzoni—Banner Printing Co., capital \$10,000, incorporated by W. L. Toney, T. L. Turner and others.

Miss., Biloxi—Buena Vista Hotel Co., capital \$150,000, incorporated by J. W. Apperson, H. H. Holmes and others.

Miss., Brookhaven—M. G. Ahrons of Brookhaven Canning Co. will install sugar cane mill, approximate capacity 150 tons.

Miss., Vicksburg—Aeolian Co., capital \$180,000, incorporated by H. H. Havis and others.

Mo., Cape Girardeau—American Gauze & Cotton Co., capital \$150,000, incorporated by C. L. Harrison, A. C. Randall and others.

Mo., Caruthersville—J. R. Hutchison, W. Stover, and Dr. T. J. Collins interested in organizing company to establish mattress plant on Ward Ave.

Mo., Elsberry—Crystal Carbonate Lime Co. will rebuild burned mill.

Mo., Jefferson City—Incinerator—City, C. W. Thomas, Mayor, considering installation of incinerator. (See Machinery Wanted—Incinerator.)

Mo., Joplin—The National Machinery Company, capital \$100,000, incorporated by P. E. Tabor, M. R. Lively, V. V. Kirkpatrick.

Mo., Kansas City—Wright Manufacturing Co., capital \$25,000, incorporated by J. H. Bracken, C. C. Wright, R. V. Williamson.

Mo., Kansas City—Hammond-Jeffers Co., capital \$100,000, incorporated by J. R. Hammond, J. J. Clark, W. F. McKeen.

Mo., Kansas City—Adelphi Printing Co., capital \$20,000, incorporated by E. H. Roy, L. T. Mart, T. H. Neal.

Mo., Kansas City—Huntzinger Co., capital \$100,000, incorporated by F. C. Wheeler, J. L. and J. H. Huntzinger.

Mo., Kansas City—Parkville Farms Hatchery, Inc., capital \$10,000, incorporated by Thos. Southard, G. C. Gresham and others.

Mo., Mount Vernon—Carnation Milk Condensing Co. will construct \$200,000 milk condensing plant.

Mo., Poplar Bluff—Poplar Bluff Printing Co., capital \$30,000, incorporated by J. H. Wolpers, J. C. Corrigan, W. A. Leach.

Mo., St. Louis—American Broom Supply Co., capital \$100,000, incorporated by A. F. Hess, M. J. Ehrlicher and others.

Mo., St. Louis—Bethel Construction Co., Inc., capital \$200,000, incorporated by Joseph T. Bethel, Herbert E. Heinz, L. E. Zweig.

Mo., St. Louis—Day Brite Reflector Co., capital \$10,000, incorporated by O. W. A. Klingsiek, David Biller, L. J. Portner.

Mo., St. Louis—Loth's Incorporated, capital \$100,000, incorporated by Jacob Loth, Sol Nusholtz, Jennie Nusholtz.

Mo., Warrensburg—Warrensburg Creamery Co., capital \$30,000, incorporated by G. A. Chapman, R. L. Ramsey and others.

N. C., Asheville—Asheville Hatchery Co., O. P. Templeman, Mgr., will establish com-

munity poultry hatchery, capacity 100,000 a season.

N. C., Belmont—H. R. Drake of Charlotte, N. C., acquired Home Bakery and will improve and install additional equipment.

N. C., Charlotte—South Drug Co., capital \$400,000, incorporated by John M. Scott, E. M. Hanover and others.

N. C., Charlotte—Precision Adding Machine Co., capital \$100,000, incorporated by Thomas D. Whitted, M. A. Goodman, T. C. Hayward.

N. C., Durham—Durham Building & Developing Co., capital \$50,000, incorporated by J. W. Burrows, E. K. Powe and G. C. Hall.

N. C., Forest City—Morris Bakery, W. F. Morris, will erect 2 story, brick 50x80 ft. bakery; will install equipment.

N. C., Louisburg—Punkin Center Amusement Co., capital \$10,000, incorporated by E. S. Ford, W. B. Tuck, R. A. Pearce.

Okla., Cushing—Cushing Broom Works, lately noted incorporated by James M. Dale and others, has building and will install broom making machinery; A. G. Stone, Construction Engr. (See Machinery Wanted—Broom Machinery.)

Okla., El Reno—Paul Liebman, Propr. of El Reno ice plant has acquired Trulock ice plant and will install creamery.

Okla., Oklahoma City—H. W. Cardwell Co., capital \$10,000, incorporated by H. W. Cardwell, T. E. Braniff, E. Croak.

Okla., Ponca City—Lane-Douglas Co., capital \$25,000, incorporated by Roger K. Lane, J. Herbert Douglas, Alan I. Riley.

Okla., Sapulpa—Sun Publishing Co., capital \$20,000, incorporated by Arthur M. Crooke, James J. Mars, J. B. Jones.

Okla., Tulsa—No-Oyle Bearing Co., lately noted incorporated with \$25,000 capital, R. B. Laing, Pres., John A. Bowman, Sec.; will rent buildings and install machinery for the manufacture of patented bearing, later may erect own building; will install electric motors, melting kettles, blowers, gang saws, crane, etc. (See Machinery Wanted—Electric Motors; Melting Kettles; Blowers; Gang Saws; Cranes, etc.)

Okla., Tulsa—Standard Pipe Co., incorporated by F. N. Handler, C. Morris and others.

Okla., Tulsa—Burke-Hintze Co., capital \$50,000, incorporated by Chas. R. Burke, Thomas F. Hintze and others.

Okla., Tulsa—J. S. Thomas Hardware & Furniture Co., J. S. Thomas, 215 W. Fairview St. will erect building, 100x140 ft. fireproof, cost \$30,000; R. M. Gillelan, Contr., Lynch Bldg., Tulsa.

Okla., Tulsa—Besse Sanitary Powder Mfg. Co., 1809 S. Sudnah St., R. L. Cotman, Sec., will erect 2-story, 50x50, ft. brick, building for the manufacture of sanitary powder, capacity 5000 lbs. daily; fireproof, concrete floors.

S. C., Columbia—Southeastern Molasses Co., capital \$10,000, incorporated by W. H. Ruff, Jr.; Andrew Crawford.

S. C., Florence—Dixie Grape & Extract Co., incorporated with J. C. Washington, Pres.; Geo. L. Frazier, Treas.

S. C., Lancaster—D. L. Robinson Co., increased capital to \$8000.

Tenn., Chattanooga—Mertin Dry Cleaning Co., 122 Market St., will erect addition to plant, 25x75 ft.; 2 stories; install additional equipment; cost \$11,000; work under Baxter Bender Co.

Tenn., Columbia—W. M. Dean Marble Company, W. M. Dean, Pres., will let contract in September to construct brick fireproof building, 40x100 ft. for ornamental marble

work; will probably install overhead hand traveling crane. Lately noted. (See Machinery Wanted Crane Traveling.)

Tenn., Kingsport—Tennessee Eastman Corp., subsidiary of Eastman Kodak Co., New York, reported to construct several new buildings and install additional equipment.

Tenn., Knoxville—Knoxville Paper Box Co. increased capital from \$25,000 to \$50,000.

Tenn., Knoxville—Chamberlain-Stuart Co., Inc., capital \$50,000, incorporated by F. W. Chamberlain, J. A. Stuart and others.

Tenn., Knoxville—Paint Pigment Co., of America, Max Grant, Pres., is installing machinery for manufacture of pigment from iron ore.

Tenn., Lenoir City—Russell Bros., organized by E. D. and T. P. Russell will establish loom shuttle billets manufacturing plant.

Tenn., Memphis—Universal Pipe Machine Co., 128 Monroe Ave., lately noted incorporated with \$50,000 capital, organized with T. W. Davis, Pres.; Joe Tanner, Sec.; will manufacture pipe machine. See Machinery Wanted—Pipe Machine.

Tenn., Nashville—Nashville Spring & Mattress Co., capital \$25,000, incorporated with J. W. Roland, Pres.; W. G. Upchurch, V. P., company is consolidation of Nashville Spring & Mattress Co. and Economy Mattress Co.

Tex., Amarillo—Austin Drug Co., capital \$20,000, incorporated by C. R. Austin, D. M. Puckett, R. D. Gist.

Tex., Bryan—Parker—Astin Hardware Co. increased capital from \$60,000 to \$100,000.

Tex., Dallas—West Texas Manufacturing Co. has building at Duncan and Taylor Sts. and will remodel for ice cream factory.

Tex., El Paso—Elite Confectionery Co. increased capital to \$50,000.

Tex., Fort Worth—Economy Electrical & Supply Co., capital \$25,000, incorporated by Eugene Ashe, G. C. Moore, A. W. Pierce.

Tex., Fort Worth—North Fort Worth Undertaking Co., capital \$20,000, incorporated by S. D. and Oliver Shannon, and others.

Tex., Port Arthur—The Wireless Co., incorporated by A. N. Peckham, Henry Lohman, C. W. Hughes.

Tex., Sherman—Sherman Coffee Co., capital \$30,000, incorporated by C. W. Howard, W. L. Hay and others.

Tex., Sweetwater—United States Gypsum Co., 205 W. Monroe St., Chicago, Ill., reported to erect \$1,000,000 plant for the manufacture of plaster of paris, cement and other gypsum products; acquired gypsum deposits, lay railroad, etc. Telegram from the company gives following facts: Location, two miles east of Sweetwater between the T. & P. and the Santa Fe; fire-proof construction; calcining capacity of 400 tons daily; products, gray (gypsite) gypsum cement plaster, white plaster of Paris, dental, pottery and terra cotta plasters, fireproofing tile, and Sheetrock wall board; completion within 9 months.

Tex., Umbarger—Farmers Elevator Co., capital \$7000, incorporated by W. M. Mick, E. J. Friemel, John Bedenk.

Tex., Waco—O. S. Stevens Manufacturing Co. has plant on Franklin St. and will manufacture Stevens Mystery Puncture Plugger.

Tex., Wichita Falls—M. & S. V. Tank Co., increased capital from \$10,000 to \$50,000.

Va., Bristol—Usavit Packing Co., capital \$150,000, incorporated with R. W. Rhodes, Pres., Greenville, Tenn.; Geo. M. Warren, Sec., Bristol.

Va., Lynchburg—Old Dominion Garment Co. let contract to C. W. Hancock & Sons, Lynchburg, to remodel building for factory; cost approximately \$100,000. (Lately noted.)

Va., Norfolk—Park of Chesapeake Beach, capital \$25,000, incorporated with Paul Y. Yeonas, Pres.; H. G. Bakalis, Sec.

Va., Pulaski—Carrs Work Corp., increased capital from \$250,000 to \$500,000.

Va., Richmond—Pepsi Cola Co. has taken over Old Dominion Beverage Corp.'s plant and will co-operate.

Va., Norfolk—Chero-Cola Bottling Corporation, capital \$60,000, incorporated with J. B. Johnson, Pres.; B. R. Smith, Sec.

Va., Richmond—European Importing Co., capital \$50,000, incorporated with Chasie Traferl, Pres.; May Benedetti, Sec.; will manufacture candy.

Va., Yorktown—Yorktown Hotel Corp., capital \$2,500,000, incorporated with T. W. Crockett, Pres.; G. P. Rothwell, Sec.

W. Va., Bluefield—Royal Artificial Limb Co., capital \$10,000, incorporated by Charles F. Clack, Bluefield; C. W. Boyd and A. J. Higginbotham, both Tazewell, Va.

W. Va., Charleston—Munns & Hardesty, capital \$100,000, incorporated by C. R. Munns, F. A. Hardesty, Horace S. Meldahl.

W. Va., Charleston—Frankenberger & Co., capital \$300,000, incorporated by Max Frankenberger, Henry Kleeman, and others.

W. Va., Dunbar—Dunbar Flint Glass Corp., capital \$125,000, incorporated by J. M. Payne, Jr., Dunbar; C. P. Miller, and John B. Ray, both Charleston.

W. Va., Huntington—Ferry—Huntington & Chesapeake Ferry Co., capital \$96,000, incorporated by B. T. Flesher, F. F. Moore, both Huntington; Vashiti Flesher Wood, Wheeling.

W. Va., Lumberport—Lumberport Hardware Co., incorporated by Okey G. Radebaugh, David G. Thompson, Hugh M. Martin.

W. Va., Moundsville—Marshall Supply Co., capital \$10,000, incorporated by J. W. Travels, E. W. Dorsey, Moundsville; G. B. Games, Glen Easton, W. Va.

W. Va., Tunnelton—Northwestern Pike Lime Co., incorporated by M. M. Bolyard, Newberg, W. Va.; J. Wedley Shaffer and L. E. Bolyard, both Tunnelton.

W. Va., Wheeling—Belle Isle Beach Co. increased capital to \$15,000.

Motor Cars, Garages, Tires, Etc.

Ala., Birmingham—Olivers' Garages, Inc., incorporated by Richard Oliver, and others.

Ala., Gadsden—Filling Station—Gadsden Oil Co., capital \$25,000, organized by the Sinclair Oil Co. to operate local plant, Mack M. Farrar, Mgr.; has acquired site on Tuscaloosa Ave. will erect oil and gasoline station.

Ala., Troy—Rayner Motor Car Co. will occupy 96x100-ft. building on North Three Notch St.; to be erected by Brown & Walters.

Fla., Leesburg—Pegram's Auto Service, incorporated with J. H. Pegram, Pres.; E. D. Pegram, Sec.-Treas.

Fla., Miami—Filling Station—E. L. Alsobrook will erect filling station, accessory and tire supply house corner Second Ave. and 9th; has site with frontage of 100 ft.; John H. Sculthorpe, Archt.

Fla., Stuart—Garage—Bert Babcock, Propr. Babcock's Garage let contract to F. M. Walfor at \$10,000 to erect 2 story addition and finish entire building over in buff and white stucco. (Lately noted.)

Fla., St. Petersburg—Ace Automotive Co., capital \$50,000, incorporated with G. Norman Baughman, Pres.; O. R. Albright, Sec.

Fla., West Palm Beach—Garage—Automobile Exchange, capital \$100,000, incorporated with G. C. Barce, Pres.; F. H. Sides, Sec.-Treas.

Ky., Jenkins—Jenkins-Nash Co., capital \$50,000, incorporated by H. L. and E. G. Durpo, F. S. Paul.

Md., Baltimore—Bloomingdale Garage & Filling Station, Inc., Poplar Grove St. and W. R. R., capital \$100,000, incorporated by John F. Duling, Wm. F. Hitchens, Archie C. New.

Md., Shadyside—Shadyside Motor Co., capital \$10,000, incorporated by Robt. E. and Wm. G. Nowell and others.

Md., Silver Springs—Maryland Garage & Machine Co., incorporated by Allen B. Neuman, David Mears and others.

Mo., Joplin—Waite Phillips Co., Petroleum Bldg., Tulsa, Okla., will erect filling station; fireproof; Carthage stone; will install pumps, tanks and air compressors; D. W. Quinn, Archt. and Const. Engr., 411 Pearl St., Joplin. (Lately noted.)

Mo., St. Joseph—Oakland Sales Co., incorporated by G. A. Rector, H. W. Shorow C. T. Miller.

Mo., St. Louis—Wedler-Shuford Co., capital \$35,000, incorporated by H. G. Wedler, J. F. Shuford and others.

Mo., Webb City—Filling Station—W. E. Patton will erect filling station, etc. at Liberty and Daugherty Sts.

Okla., Oklahoma City—Fred Jones Motor Co. will erect 1 story, 100x140 ft. sales and service building at Harvey and Washington Aves., capital \$85,000.

Tenn., Knoxville—Garage—E. C. Fretz will erect 60x90-ft. garage building at 714 N. Broadway, steel and brick walls, concrete floors; cost \$10,000.

Tenn., Nashville—Garage—Fite-French Co. let contract to H. P. Jacobs Construction Co., at \$8000 to erect brick, steel and concrete garage and salesroom building.

Tex., Corpus Christi—Mayfield Auto Co. increased capital from \$10,000 to \$20,000.

Tex., Dallas—Service Station, etc.—Liberty Investment Co. let contract to R. H. Lacy to erect 1-story, 86x95-ft. service station and automobile accessory store building on N. Akard St.; estimated cost \$16,000; Flint & Broad, Archts.

Tex., Denton—Stamps-Chevrolet Co. capital \$15,000, incorporated by Dan Brown, W. O. Stamps, Jr., and others.

Va., Dublin—Colliers Motor Corp., S. B. Collier, Pres. contemplates building plant, installing drop forging plant consisting of coke furnace and two hammers, capacity of each 2 tons.

Va., Petersburg—W. J. Loth Motor Co., Inc., capital \$50,000, incorporated with W. J. Loth, Jr., Pres.; J. R. Roller, Sec.

W. Va., Grafton—Sawyer Motor Co., capital \$10,000, incorporated by L. F. Sawyer, J. M. Humphreys, John L. Hechmer.

Railways

Ky., Frankfort—Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Louisville, Ky. let contract to the Frankfort Supply Co. for excavation for the West Frankfort terminal; specification call for excavation along track at point opposite water pumping station, cut into hill 25 ft. on south side of track, continuing distance of 370 ft.; terminal facilities will be installed on completion of excavation work.

La., Rayville—Stockholders of the Rayville, Pioneer & Eastern Railroad Co. are reported about to build its proposed line from Rayville to Pioneer, La., about 10 mi. and later to extend to Oak Grove and Lake Providence. George Wesley Smith and others are interested.

Okl., Shidler—Osage Railway Co. has been authorized by the Interstate Commerce Commission to extend its line 6 mi. westward. W. F. Tyler is manager at 401 Railway Exchange Building, Muskogee, Okla.

Tex., Houston—John H. Kirby, W. C. Munn and John S. Bonner, trustees, are reported as announcing that the Seaboard Electric Railway Co., capital stock \$2,000,000, will be incorporated to build a line from Houston via Harrisburg, Pasadena, San Jacinto Battle Park, Morgan's Point and Seabrook, Tex., about 30 mi. Construction expected to begin October 1.

Tex., Tullia—Texas Panhandle & Gulf Railway Co., capital stock \$2,700,000, with headquarters at Tullia, is incorporated to build a line from Fort Worth, Tex., to Tullia, in Swisher County and thence to the boundary of New Mexico, 380 mi. altogether. Incorporators: Clement H. Powell and L. F. Powell, of Tullia; Edward J. Noonan and others of Chicago, Ill., the directors also including C. L. Cooper, Foster Claus, J. L. Smith and C. R. Young.

W. Va., Erwin—Cheat River Railroad Co. incorporated to build a line 9 mi. long from Erwin to St. George, W. Va. Grading reported begun. Incorporators W. H. Mason, L. W. Coberly, N. I. Hall, R. S. Irons, and W. G. Wilson, all of Elkins, W. Va.

Road and Street Construction.

Ala., Florence—State Highway Dept. plans improving Lee Highway between Florence and Killon. Address State Highway Dept., Montgomery, Ala., W. S. Keller, State Highway Engr., Montgomery.

Ala., Montgomery—City plans grading Cromwell St. from Court to Goode Sts. W. L. Jackson, City Clerk.

Ala., Ozark—City will receive bids until August 15 for approximately 18,000 sq. yds. asphalt bitulithic brick or concrete paving; 13,000 lin. ft. curb and gutter; 7000 sq. yds. sidewalk and incidentals. L. F. Sessions, Judge of Probate, Dale County and Chas. O. Stokes, Mayor, Ozark, Ala.

Ala., Selma—City will receive bids until July 23 to relay certain streets. W. C. Crisman, City Eng.

Ala., Tuscaloosa—City Comm. plans expending \$40,000 for paving Queen City Ave., Fifteenth St., Twenty-second Ave., Eighth St. and Fourteenth Ave.

Ark., Hot Springs—City let contract for paving Park Ave. to Otto V. Martin Construction Co., Fort Smith, Ark., at approximately \$25,000. (Lately noted.)

D. C., Washington—District Commrs. let contract for 35,000 to 40,000 sq. yds. cement sidewalks to The Warren F. Brenizer Co., 101 York Ave., N. E., Washington, D. C. at \$83.000. (Lately noted.)

Fla., Bunnell—Flagler and Volusia Counties plan building Ocean Shore Blvd. from Flagler County to point some distance from lighthouse in Volusia County. Voted \$450,000 bond issue. (Lately noted.)

Fla., Clearwater—Pinellas County will receive bids until August 23 to build with vitrified brick, asphalt block, sheet asphalt certain roads; Numbers 1, 2, 3, 4, 5, 6, 7, 8, approximate quantities 250,000 sq. yds. of re-laid vitrified brick surface with bituminous filler and 550,000 sq. yds. of new pavement surface; grading, drainage structures, rock base, and curb; C. E. Burleson, County Engr. (Lately noted bids open August 14.)

Fla., Clearwater—Pinellas County, Pinellas Park Road and Bridge Dist., plans building road with asphalt surface from Gandy Bridge to Pinellas Park, then to Seminole Bridge, and across to Boca Ceiga Bay, O.

costing about \$251,000; will also build causeway to Long Key, costing \$133,000; will vote on bonds August 6. Address County Commrs. (Lately noted.)

Fla., Daytona—Details under Sewer Construction.

Fla., Inverness—County Commrs. of Citrus county will receive bids until July 31 to improve and construct drainage structures on 12 roads ranging from 2 to 12 mi. each; 155,000 cu. yds. grading, 55,000 cu. yds. limestone and sand-clay surfacing; C. D. Shultz, Clerk, Board of County Commrs., Inverness, Fla., or E. V. Camp and Associates, Consulting and Supervising Engrs., Atlanta, Ga.

Fla., Miami—Details under Land Development.

Fla., Miami—A. T. Barkdull, Barkdull Investment Co. let contract to C. E. Fritz, Fort Lauderdale, for paving streets in Oakland Park addition west of the Dixie Highway.

Fla., Orlando—Details under Land Developments.

Fla., Panama City—City let contract to Crouch Construction Co., Dothan, Ala., at \$100,000 for construction of 30,000 sq. yds. street paving; H. A. Lang, Engr., Moultrie, Ga. (Lately noted.)

Georgia—State Highway Dept. let contracts for 3 projects as follows: No. 328, Hall County, 12 mi. between Gainesville and Lula—Contract No. 1, 1 mi. of concrete, to Whitney Construction Co., LaGrange, Ga. at \$32,346.92; Contract No. 2, to R. G. Chambers, West Point, Ga., at \$129,940.7; No. 114, Ware County, 7,064 mi. penetration macadam between Waycross and Folkston, to Sam Finley Atlanta, at \$91,456.50; No. 232, Dougherty County, 7.06 mi. asphalt between Albany and Thomasville to Ely Construction Co., Augusta, at \$113,157.74. (Lately noted.)

Ga., Macon—City let contract to Davis Construction Co. to pave North Ave. from Alexander School No. 3 to Summit Ave.

Kentucky—State Highway Dept., Frankfort, Ky., plans grading and surfacing with water-bound macadam or gravel surfacing 14.42 mi. Owenton-Carrollton road, State Project No. 59 in Owen County. Joe S. Boggs, State Highway Engr.

Ky., Frankfort—City plans paving Main St. from the city limits on the east, to St. Clair St., to the Bridge to Second St. to Louisville Pike, to the city limits at the top of the Louisville Hill, forming a part of Midland Trail; estimated cost \$163,451.42; one-half to be borne by city and one-half by state. Address State Highway Eng. Joseph Boggs, Frankfort, Ky.

Ky., Henderson—City will receive bids until July 21 for improvement of 33 blocks of the following streets: Main st. from Second street to fourth; Elm Street from First to Second; Green Street from First to Twelfth; South Green Street from Clay to City limits; Washington Street from Green to I. C. R. R.; all paved carriage ways, concrete curbs, wood curb, catch basins, inlets, manholes and relaying gutters. Commr. of Public Works, Henderson, Henderson County, Ky.

Ky., Paducah—McCracken county plans reconstructing 3 roads as follows: Calro road with hard surface material; Lovelaceville road through Lovelaceville, Cunningham to Bardwell and Benton road with gravel. Col. Ben Weille, Paducah.

La., Abbeville—The Third Ward of Vermillion parish will build lateral roads in parish and gravel streets to the town of Abbeville. Voted \$130,000 bonds.

La., Baton Rouge—Details under Sewer Construction.

La., Baton Rouge—City will receive bids until August 7 for paving Government St. from St. Louis St. to the eastern city limits and St. Louis St. from Government to Louisiana Ave. with brick, bitulithic, sheet asphalt, asphaltic concrete or reinforced concrete; approximate quantities 23,600 sq. yds. paving and 7300 cu. yds. excavation; J. W. Billingsley, Consulting Engr.

La., Ruston—Town receives bids until July 20 for paving of certain streets with asphaltic concrete, approximately 16,295 sq. yds.; plans and specifications at office of the Mayor and Clerk, Ruston, La. and E. T. Archer & Co., Engrs., 1011 Merchant's Building, Shreveport, La.

Maryland—State Roads Comm., 601 Garrett Bldg., Baltimore, Md., will receive bids until July 31, to build 2.43 mi. concrete road in Garrett county, contract G-16, one section of state highway from Crellin to the West Virginia state line. John N. Mackall, Chmn., Roads Comm.

Md., Baltimore—Paving Comsn., R. Keith Compton, Chmn., 214 E. Lexington St. received low bid from George Long Construction Co., Baltimore, at \$59,273.80 for paving with granite blocks, Clinton St. from the water front to Eleventh Ave. in Canton.

Md., Baltimore—City will receive bids until July 25 to grade and pave with cement concrete, footways in Footway Contracts Nos. 66 and 67. Address Mayor Howard W. Jackson, Pres., Board of Awards or Steuart Purcell, Chief Engr.

Miss., Jackson—State Highway Dept. will receive bids until August 7 for 1.5 mi. concrete asphalt or brick road on the old Spanish Trail at Biloxi. County Board of Supervisors, Biloxi, Miss.

Miss., Jackson—State Highway Dept. will receive bids until August 3 for resurfacing gravel road between Canton and Carthage. Address Madison Supervisors, Canton, Miss.

Miss., Jackson—State Highway Dept. will receive bids until August 11 for grading 8 mi. road between Grenada and Calhoun City. Address Board of Supervisors, Grenada, Miss.

Miss., Jackson—State Highway Dept. will receive bids until August 2 for 5 mi. of gravel road, Project No. 146, between Vicksburg and Rolling Fork. Address Warren County Board of Supervisors, Vicksburg.

Miss., Laurel—City let contract to pave with brick, gravel a group of streets and lay sidewalks, curb and gutter of concrete construction, to Southern Paving and Construction Co., Chattanooga, Tenn.

Miss., Moss Point—Jackson County Board of Supervisors will receive bids until July 30 for construction of 14,009 mi. hard surfaced road from Gautier to Ocean Springs. Address H. C. Dietzer, State Highway Engr.

Miss., Pascagoula—State Highway Comm. authorized road supervision of Jackson county to issue \$387,000 bonds for construction of road from Pascagoula to Ocean Springs and completion of link in old Spanish Trail.

Miss., Port Gibson—Claborn County will receive bids until July 23 for 7.828 mi. State Trunk Road between Fort Gibson and Vicksburg and bridge over 20 ft. span, Federal Aid Project No. 153A. Plans, etc., on file from H. C. Dietzer, State Highway Engr., Jackson, Miss. (Lately noted.)

Miss., Tylertown—Walthall County plans building gravel road in the northeastern part of county; voted \$50,000 bonds. Address County Commrs.

Mo., Carthage—City let contracts for paving sections of Chestnut and Clinton Sts. to V. E. Koch, Joplin, Mo. at \$38,032.72.

Mo., Chillicothe—Contracts will be let soon

for paving South Vine and East Webster Sts. and resurfacing West Jackson and Cooper Sts., contemplating improving West Polk St. Address City Council.

Mo., Independence—Jackson county received low bid from E. L. Meek, & Co., Kansas City, at \$86,115.04 for repairing 12.5 mi. of the Spring Branch road from eastern limits of Independence east. (Lately noted.)

Okla., Fairfax—City plans paving several important streets; Address The Mayor.

Mo., Jefferson City—State Highway Comm. let contracts for 3 roads in Stone County; M. E. Gilliez, Monett, Mo., was awarded contract for strip of road north of Galena and Reeds Spring at \$54,688 and the Springfield Construction Co. was awarded contract for second strip between Galena and Reed Springs.

Mo., Kansas City—Contract will be awarded late this month for paving sixth street traffic-way from Broadway to Grand Ave.; Robert W. Waddell, City Engr.

Mo., Moberly—City will let contracts soon for paving Morley St. with vitrified brick. Address the City Council.

Mo., Neosho—City let contract for paving the public square to Queal Construction Co., Neosho at \$45,822.96. (Lately noted.)

Mo., Osceola—St. Clair County approved plans for building 2 mi. road connecting the Mascoutah road with the Scott Field aviation center, approximate cost \$60,000; Address Board of Supervisors.

Mo., St. Louis—Details under Land Developments.

Mo., St. Louis—City let contracts for paving following streets: Twelfth St., from Chouteau Ave. to Souard St., to Central Paving Co., Chicago, Ill., at \$90,230.50; Herbert St. from Parnell Ave. to Glasgow Ave. and Utah, Grand Blvd. to Louisiana Ave., to Granite Bituminous Paving Co., St. Louis, at \$44,672.35; Korn to King's highway, to Skrainka Construction Co., St. Louis, at \$13,448.25; Tyrolean and Elmer Aves. between Gravois Ave. and King's Highway and Korn Ave., Schollmeyer Ave. and Loughborough Ave., and Osceola, Ohio to Broadway to Eyermann Construction Co., St. Louis, at \$28,049.70.

N. C., Fayetteville—City plans expending \$300,000, improving streets. Mayor, McD. Robinson.

N. C., Henderson—City plans hard-surfacing twelve streets, improving twenty-four sidewalks, and eight curb and gutter projects; \$200,000 bond issue available Address The Mayor. (Lately Noted.)

N. C., Rutherfordton—City let contract for paving 1st, 2nd, 5th and 7th Sts., from Main to Washington to Geer & Wilson Construction Co., Rutherfordton, N. C., at \$22,995. (Lately noted.)

Okla., Duncan—Stephens County will expend \$1,700,000 in hard-surfacing two north and south and two east and west highways across the county and improving lateral roads.

Okla., Tulsa—City let ten paving contracts to H. L. Cannady Co. at \$178,455.25 and two at \$4258.70.

S. C., Anderson—State Highway Comsn. received low bid from Newell Construction Co., Anderson, at approximately \$19,000 to topsoil 4 mi. road from Varennes church to the Abbeville county line. N. S. Anderson, State Highway Comsn. (Lately noted.)

S. C., Barnwell—Barnwell County Highway Comms. will receive bids until July 26 for construction of 7.036 mi. of State road, Route 1, beginning in town of Blackville and ending near South Edisto river. Address

W. C. Cathey, Div. Engr., Seoville Bldg., Orangeburg, S. C., or State Highway Engr., Columbia, S. C.

S. C., Edgefield—Edgefield County Comms. will receive bids until July 25 for construction of 9.047 mi. of State road, Route 39, between city limits of Edgefield and the Saluda County line. Address State Highway Engr., Columbia, S. C.

S. C., Moncks Corner—Berkeley County Highway Comm. will receive bids until July 24 for construction of 5.716 mi. of State road, Route 41, between Biggen Church and Bonneau, construct drainage structures and sand clay surfacing. Address E. C. Cathey, Div. Engr., Seoville Bldg., Orangeburg, S. C., or State Highway Engr., Columbia, S. C. (Lately noted.)

S. C., Spartanburg—Details under Sewer Construction.

Tennessee—State Highway Dept., Nashville, Tenn., received low bids for 2 roads as follows; Robertson County, 10.7 mi. bituminous macadam penetration on hard surface base, between Springfield and Davidson County line, Texas Road Co., Dallas, Tex. at \$147,758; Coffee County, approximated 5 mi. surfacing between Moore County line and Franklin County line, Boyd Williams Construction Co., Murfreesboro, Tenn. at \$45,493. (Lately noted.)

Tenn., Altamont—Grundy County Highway Comsn. receives bids until July 17 for the waterbound, macadam surfacing of 5.231 mi. Pelham Valley road. Plans and specification County Eng., Pelham, Tenn.

Tenn., Jasper—Marion County Comms. voted \$100,000 for the Dixie Highway.

Tenn., Knoxville—City Comsn. let contract to Murray Construction Co., Knoxville, for improving certain streets with asphalt concrete and sheet asphalt surface.

Tenn., Knoxville — Knox County plans building 13 road projects as follows: 3 mi. Pickens Gap Pike; 1.5 mi. rock macadam, Valley road; 6 mi. waterbound macadam, Martin Mill Pike from the junction of Pickens Gap Pike to the county line; 1.5 mi. carpet treatment Pickens Gap pike from the junction of the Neubert Springs Pike; 1 mi. carpet treatment from Fountain City Hall's Cross Roads; 5 mi. carpet treatment Kingston Pike from Farragut High school via Concord to the Loudon county line; 1.5 mi. carpet treatment Concord Pike to Prater's Ferry pike; 1.5 mi. carpet treatment Concord pike via M. E. Church parsonage to Cal Smith's residence; 1.5 mi. carpet treatment Huffaker's Ferry road to Kimberlin Hgts.; 4 mi. chert surfacing and grading Hardin Valley road to the county line; 5 mi.

Tenn., Martin—City let contract to Murphy & Hall, Martin, Tenn. at \$190,000 for 10,000 sq. yds. rock asphalt, 115,000 sq. yds. penetration, 50,000 lin. ft. curb and gutters, and storm sewers. (Lately noted.)

Tex., Austin—City will let contract for 4.5 mi. Manor road to Haden & Austin, Houston, Tex., at \$21,251.22.

Tex., Ballinger — Runnels County plans grading and constructing bridges and culverts on 9.25 mi. of the Ballinger-Winters road, State Highway No. 30; approximate cost \$50,000. Jos. E. Pere, County Engr. and Paul Tremmier, County Judge, Ballinger, Tex.

Tex., Beaumont—Jefferson County will receive bids until August 7 for building 7.35 mi. concrete pavement on Voth road, State Highway No. 40 between Beaumont and the Hardin County line; 20,186 cu. yds. excavation, 17,715 cu. yds. borrow, 69,336 sq. yds. concrete pavement on sand cushion, 46,884 lbs. reinforced steel. A. C. Love, County Engr., Beaumont, Tex.

Texas, Brazoria—Brazoria County plans building hard surface road from Brazos River bridge to within six mi. of Angleton; voted \$25,000 bond.

Tex., Brenham—Washington County, J. H. Chappel, County Judge will receive bids until July 25 to grade and construct drainage structures on 2 sections of Brenham-Washington road; First: 17.3 mi. State Highway No. 36, 15.7 acres clearing, 12 acres grubbing, 63,051 cu. yds. borrow, 11,092 cu. yds. unclassified excavation, 121,997 cu. yds. earth excavation, 2020 cu. yds. Class A concrete, 101.4 cu. yds. class B concrete, 3060 lin. ft. cast concrete piling, 3060 lin. ft. driven concrete piling, 197,075 lbs. reinforced steel and 49,600 lin. ft. ground fence second; 19.2 mi., 115 cu. yds. borrow excavation, 5000 cu. yds. unclassified excavation, 281,000 cu. yds. overhaul, 129,000 cu. yds. earth excavation, 34,200 lin. ft. ground fence, 208,000 lbs. reinforced steel. G. A. Brocher, Engr., Brenham, Tex.; carpet treatment Ball Camp Pike; 2 mi. reconstruction and carpet treatment Blue Grass and Ebenezer road; 3 mi. overhauled and carpet treatment Tuckahoe road J. W. Spradin, Supt. road construction.

Tex., Cameron—Milam County let contracts for improving 4 roads; Davilla road, to C. W. Conn, Rogers road to S. M. Harrell, Henderson road which includes the Rylander-Henderson Hightower roads to J. L. Adams; and Baker road to J. L. Slaughter. (Lately noted.)

Tex., Clarksville—Red River County submitted plans to the State Highway Dept. to construct 5.9 mi. of the Clarksville-Bogate Road from Cuthand Creek to the West line of Road District No. 13; to be surfaced with gravel; estimated cost \$36,545, Federal Aid \$18,000, J. B. Rieman, County Eng. and Geo. Morrison, County Judge, Clarksville, Tex.

Tex., Eastland—Eastland County will probably receive bids July 31 for 48 mi. bituminous macadam surface road in County State Aid Project, No. 393; plans, etc. from C. J. Henning, Jr., Engr. in charge and Ed. S. Pritchard, County Judge, Eastland, Tex. (Lately noted to vote June 29.)

Tex., Edinburg — State Highway Dept., Austin, plans building 13.76 mi. bituminous concrete road on State Highway No. 12 in Hidalgo County from Cameron County line to point near Donna; estimated cost \$680,300; S. Devine, County Engr., Pharr, Tex. and J. C. Epperson, County Judge, Edinburg, Tex.

Tex., Edinburg — State Highway Dept., plans building 9.65 mi. 18 ft. concrete road on State Highway No. 12 in Hidalgo County from Pharr to Mamie; estimated cost \$367,900. P. S. Devine, County Engr., Pharr, and J. E. Epperson, County Judge, Edinburg, Tex.

Tex., Hondo—Medina County let contract for 117,620.8 sq. yds. 1-in. cold rolled rock asphalt surface treatment on 13.44 mi. State Highway No. 2, San Antonio to Laredo, to Colglazier & Hoff, 922 Austin St., San Antonio, Tex. at approximately \$65,000. (Lately noted.)

Tex., Johnson City—Blanco County will receive bids until July 25 to construct 5.53 mi. State Highway No. 20A from the Gillespie County line east, consisting of 19.94 acres clearing and grubbing, 29,276 cu. yds. roadway and 28,795 cu. yds. borrow excavation, 11,527 cu. yds. shale adobe surfacing, 129 cu. yds. class A concrete, 14,25 cu. yds. class B concrete, 11,572 lbs. reinforcing steel, 2300 lin. ft. wood guard fence; J. W. Puckett Co., Engr., Johnson City.

Tex., La Grange—Fayette County Comms. Court let contract to W. L. Sanders, Cooledge, Tex. at \$51,699.10 to construct the Fayetteville stretch of highway connecting with the

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

LaGrange-Offenburg highway near Ruttersville.

Tex., McKinney—Collin County plans constructing 6.75 mi. 18 ft. concrete paved road on State Highway No. 6 from 3.5 mi. south to 3.25 mi. north of McKinney; estimated cost approximately \$300,370. F. W. Cawthon, County Engr. and T. O. Murray, County Judge, McKinney, Tex.

Tex., Navasota—City let contract for 43,000 sq. yds. paving to Smith Bros., Dallas, Tex. Address The Mayor.

Tex., Pecos—Reeves County plans building 15.5 mi. 16 ft. gravel road on the old Spanish Trail Highway from Bankhead Highway to point 4.5 mi. west of Tysohvale; approximate cost \$100,000; A. J. Adcock, County Engr., Grand Falls and J. F. Koss, County Judge, Pecos, Tex.

Va., Norfolk—Details under Land Developments.

Va., Norfolk—City contemplates paving Shirley and Brandon Ave. and West Ghent Boulevard, approximate cost \$20,100. Address City Manager, Charles E. Ashburner.

Va., Richmond—City will receive bids until July 17 for grading, graveling, curb and gutter in Oak Grove; grading and graveling Ninth St. road and Dinwiddie Ave.; paving alley in block Broad, Marshall, Boulevard, and Sheppard Sts.; paving Gregory Tract in William Byrd Park. Allen J. Saville, Director of Public Works.

Va., Richmond—City let contract to McGuire & Rolfe, Richmond, Va. at \$185,000 to pave Broad St., west of Laurel, with sheet asphalt. (Lately Noted.)

Va., Roanoke—Chamber of Commerce is promoting Roanoke Highway Improvement Corp. for the purpose of building roads. B. F. Moomaw, Sec.

W. Va., Clarksburg—City let contract for paving North Fourth St. in Glen Elk to Paul S. Hornor Co., Goff Building, Clarksburg.

W. Va., Fayetteville—Fayette County will receive bids until August 14 to grade, drain and pave, bituminous penetration, 3 road projects in Fayetteville district, totaling 9.5 mi. on Mt. Hope-Pax road; H. R. Anderson, Div. Engr., State Road Comsn.

W. Va., Huntington—City Comsn. plans paving 27 sidewalks in various sections of city. Address City Comms.

W. Va., Huntington—City let contracts for paving: Highlawn Court, North Cedar St., Leeward and 25th St. to George Hinkle at \$27,494.25; Washington Ave. and Nine one-half alley to Duncan & Griffith at \$29,635; Thirteenth Ave. to Gerchow and McGinnis at \$12,583.90, and Artisan Ave. to J. A. Griffith at \$19,272. (Lately noted.)

W. Va., Logan—Logan County will receive bids until July 26 to grade, drain and gravel 3 mi. State Road, Route 10 from Stirrat to Main Island Creek. Plans on file, J. N. Smith, County Road Engr., Logan, W. Va.

W. Va., Wheeling—City received low bids for paving and grading Washington St. with concrete \$47,123.70, with brick \$55,241.80, extension of water lines \$2589.20 from A. O. Holderman, Wheeling, W. Va.

Sewer Construction

Ala., Hartselle—Details under Water Works.

Ala., Mobile—Details under Water Works.

D. C., Washington—Dist. Commr., Room 509 District Bldg., will receive bids until July 31 for construction of 3200 lin. ft. of sewer; information at Room 427 Dist. Bldg.

Fla., Daytona—City contemplates voting on bond issue for the following: \$260,000 for river front improvements from South St. to

Fairview Ave.; \$200,000 for additional pavings, \$100,000 for extension to sanitary and sewerage system; \$100,000 for waterworks improvements, replacement and extensions; \$10,000 for new fire station; R. P. Willson, Acting City Mgr.

Fla., Miami—Details under Land Developments.

Fla., Orlando—Details under Land Developments.

Fla., St. Petersburg—City let contract to Gedney & Murphy to construct outlet section of storm sewer. (Lately noted.)

Ga., Atlanta—City, W. P. Price, Purchasing Agent, receives bids until July 16 to furnish material and labor to construct portions of Beecher St. trunk sewer and for alterations of sewer intersection of Crew St.

Ga., Valdosta—Details under Water Works.

Ky., Ashland—City, Harry Carroll, Clk. revives bids until Aug. 7 to construct approximately 25 mi. sanitary sewers; plans end specification at office of Thomas Bogess, City Engr. or Alvord, Burdick & Howson, Const. Engr., 1417 Hartford Bldg., Chicago, Ill.

La., Baton Rouge—City will vote on following bond issues: \$325,000 for sewerage; \$200,000 for sewerage, (suburbs); \$600,000 for paving; \$325,000 for drainage; \$175,000 for fire department; \$350,000 for river terminals; \$20,000 for library; \$45,000 for abattoir; \$35,000 for opening streets; \$50,000 for city hall; \$75,000 for public park; J. W. Billingsley, City Engr. (Previously noted.)

La., Winnfield—City, J. R. Gibbs, Mayor, will vote in summer on proposition to install sewerage system and improve water works; E. T. Archer & Co. Engrs., Kansas City, Mo. (Lately noted.)

Md., Baltimore—Board of Awards, Mayor, Howard W. Jackson, Pres., opens bid July 25 to construct sanitary sewers in Dist. 25, approximate quantities are: 14,795 lin. ft. of 8 to 15-in. vitrified pipe sewer; 5500 lin. ft. of 6-in. vitrified pipe house connections; 450 lin. ft. of 5-in. cast iron pipe house connections; 117 manholes; B. L. Grozier, Highways Engr.

Miss., Batesville—City let contract to Hayden Construction Co. of Pass Christian, Miss., to construct additional sewer system; cost \$12,000. (Lately noted.)

Mo., Bolivar—City has had estimates prepared by Archer Engineering & Construction Co. of Kansas City for construction of sanitary sewer system; cost about \$45,000.

Mo., Braymer—Details under Water Works.

Mo., Columbia—City let contract to G. Barkwell to construct sewers in Dists. Nos. 48 and 55; let contract to Clyde A. Stewart for sewers in Dists. Nos. 49 and 50. (Lately noted.)

Mo., Edina—Details under Water Works.

Mo., Independence—City let contract to Earl Audet to construct sewer on Cottage St. and for curbing. (Lately noted.)

Mo., Marshall—City Council contemplates installing sewer in northwest section of city.

Mo., St. Louis—Details under Land Developments.

N. C., Charlotte—City has had preliminary surveys completed for installation of septic tank; cost \$300,000; will probably vote on bonds; W. S. Stancill, Commr. of Public Works. (Lately noted.)

N. C., Rutherfordton—City, J. F. Flack, Sec., let contract to Elliott Building Co. of Hickory, N. C., for sewer improvements. (Lately noted.)

Okla., Enid—City will probably construct storm sewer connecting Washington St. and

Independence St. sewers; 6 ft. in diam.; cost \$9000; Jos. Stucker, Commr.

Okla., Erick—City will construct sewer system; \$85,000 available. Address The Mayor.

S. C., Spartanburg—City contemplates voting on \$60,000 sewerage bonds, \$400,000 bonds for roads and streets. Address The Mayor.

Tenn., Martin—Details under Road and Street Construction.

Tenn., Milan—City, Henry P. Webb, Mayor, opened bids July 18 for the following work: approximately 8850 lin. ft. of 12-in., 4280 lin. ft. of 10-in., 28,700 lin. ft. of 8-in. vitrified sewer pipe; 2500 lin. ft. of 6-in. house connection; 92 manholes; one septic tank; J. H. Weatherford, Engr., 64 Porter Bldg., Memphis, Tenn.

Tex., Grand Prairie—City voted \$65,000 sewer bonds. Address The Mayor.

Tex., Hearne—City will vote July 24 on \$51,000 sewer construction bonds; W. H. Ely, Mayor.

Tex., San Angelo—L. W. S. Mantel, City Engr., submitted to City Council plan for proposed sewer system.

Tex., Sanger—Details under Water Works.

Va., Falls Church—Arlington Board of Supervisors, D. J. Howell, County Sanitary Engr., contemplate installing sewer system to cost \$1,000,000.

W. Va., Spencer—State Board of Control, Charleston, W. Va., J. S. Lakin, Pres., receives bids until Aug. 24 to construct intercepting sewer branches consisting of the following: 13,515 ft. of 6 to 20-in. terra cotta sewer pipe; 1000 ft. of 4 and 6-in. under drain; 57 manholes; 3 flush tanks; one 8-in. cast iron inverted syphon about 700 ft. long on a grade below the bed of Spring Creek, passing through a ridge solid ledge requiring 25 ft. tunnel; one 6-in. cast iron inverted siphon about 200 ft. long on a grade below the bed of Spring Creek; W. J. Faulkner, Mayor; Chas. E. Collins, Const. Engr., Drexel Bldg., Philadelphia, Pa.

W. Va., Wheeling—Details under Road and Street Construction.

Telephone Systems

Fla., Miami—South Atlantic Telephone & Telegraph Co., F. W. Webster, Mgr., will expend \$75,000 on extensions, increasing number of phones from 900 to 1600; outside construction includes placing of 4200 ft. of 600 pr. cable, 3100 ft. of 400 pr. cable, 10,700 ft. of 200 pr. cable, 11,800 ft. of 100 pr. cable, 27,800 ft. of 50 pr. cable, 9300 ft. of 25 pr. cable.

Md., Baltimore—Radio Center Corp., 329 W. Baltimore St., incorporated by Barnett L. Cramer, Milton Reiner, Herbert Wyle.

Va., Roanoke—Chesapeake & Potomac Telephone Co., N. O. Wood, local Mgr., plans enlarging building on Commerce St., estimated cost \$40,000; installing about 8000 additional phones.

Textile Mills

Ark., Little Rock—Arkansas Cotton Mills Co., Riegler Bldg., incorporated with \$1,500,000 capital E. Dalton, Pres., Pocahontas, Ark.; T. W. Campbell, Sec., Little Rock, Ark. will erect 20,000 spindle mill; John B. Trippe, 207 Riegler Bldg., also interested. (Lately noted.)

Ga., Savannah—Mente & Co., Inc., New Orleans, La. reported to install additional equipment.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

N. C. Davidson—Delburg-Linden Co., will issue \$120,000 of cumulative preferred stock; J. P. Munroe, Pres.; J. Lee Sloan, Sec.

N. C., Reidsville—Cartex Mfg. Co. of Clinton, N. C., contemplates enlarging plant.

N. C., Rocky Mount—Rocky Mount Mills reported to let contract to D. J. Rose & Son for one story addition to present mill; cost \$31,715; Lockwood, Greene & Co., Engrs., Charlotte, N. C. (Lately noted.)

N. C., Washington—J. F. Buchman, C. G. Morris, and others form committee to consider proposition of B. F. B. Lawson of B. F. Lawson, Inc., to erect textile plant for manufacturing lace.

S. C., Charleston—S. E. Menefee, V. P. of Williamson Mills Co., will install 308 looms. (Lately noted to take over Royal Mills.)

S. C., Spartanburg—Arcad a Mills let contract through Lockwood Greene & Co., Spartanburg, S. C., for installation of electrical apparatus, including light and power wiring, motors and switchboards; will soon let contract for heating and sprinkling system. (Lately noted.)

Tenn., Nashville—E. I. duPont de Nemours Co., Inc., Wilmington, Del., purchased Old Hickory plant from Nashville Industrial Corp. and will establish \$4,000,000 silk fibre plant; purchase includes 500 acres on Cumberland River at Hadleys Bend; 600 dwellings; 3 larger buildings and water plant; company will build plant and enlarge water works; construction to begin at once. (Lately noted.)

Water Works

Ala., Hartselle—City voted to grant franchise to John B. Weakley of Birmingham, Ala., to install water works and sewer system. (Lately noted.)

Ala., Mobile—City will vote Aug. 28 on \$350,000 bonds for extension of water and sewer system. Address Mayor Taylor.

Fla., Daytona—Details under Sewer Construction.

Fla., Miami—Details under Land Developments.

Fla., Orlando—Details under Land Developments.

Fla., Palm Beach—Details under Miscellaneous Construction.

Ga., Atlanta—Finance Comm. recommended to City Council the issuance of \$1,500,000 bonds for water works hydro-electric plant and extension of city water mains.

Ga., Valdosta—City defeated \$150,000 bonds for water works enlargements, sewer extensions and purchase of fair grounds. Address The Mayor.

Ky., Danville—City contemplates erecting water plant; contingent upon erection of proposed dam across Dix River by Dix River Power Co. and the Midwest Utilities Co. of Chicago, Ill.; estimated cost of plant \$200,000; daily capacity 4,000,000 gal.; to be operated by electricity; Peares Greeley & Hansen, 38 W. Adams St., Chicago, Ill. are preparing plans and specifications; Henry E. Woolfolk, Supt. Water Works.

La., Winnfield—Details under Sewer Construction.

Mo., Braymer—City Council has approved preliminary plans for water works and sewer system; will vote July 24 on \$85,000 bonds.

Mo., Chillicothe—Board of Public Works let contract to Chicago Bridge & Iron Co., 2148 Transportation Bldg., Chicago, Ill., at \$22,633 for construction of water tower; capacity of 250,000 gals. (Lately noted.)

Mo., Edina—City will vote July 27 on \$120,000 bonds for waterworks and sewer

improvements, including additional pipe line extensions, reservoir and filtration plant, etc. (Lately noted.)

Mo., St. Louis—Details under Land Developments.

N. C., Graham—City receives bids until July 20 to construct clear water reservoir, 500,000 gal. capacity and furnish material for same; work includes excavation for reservoir and back filling; trenching for water connections; pipe; connection with wells, pumps, etc.; reinforced concrete for reservoir, roof and material for same; waterproofing; plans on file at office Graham Water Comm. and Spoon & Lewis, Conslt. Engrs., American Exchange National Bank, Greensboro, N. C.

N. C., Raleigh—City receives bids until August 1 to furnish certain materials and for water works improvements; work consists of concrete coagulating basin to serve as filter plant having capacity of 5,000,000 gals. water daily; construction of 4 concrete filter tubs each having a capacity of 500,000 gals. daily; construction of extensions to present filter building, pipe gallery, clear water flume, etc.; furnishing and placing gravel, sand, manifolds, laterals, wash troughs, effluent controllers, combined loss of head and rate of flow gauges, etc., for 11 filters; furnishing and installing chlorinators, venturi meter, dry chemical feed machines and miscellaneous other structures and equipment, including high duty pumping equipment; William C. Olsen, Engr., iKinston, N. C.; C. C. Page, Commr. Public Works.

Okla., Temple—Town—E. M. Bynum, Clk., will receive bids July 16 for water works extensions and improvements; plans and specification on file and with Gantt-Baker Co., Engr., 1116 First National Bank Bldg., Oklahoma City, Okla.

Okla., Tulsa — Water Comm. opens bids July 30 for equipment of Mohawk Pumping Station, a unit of Spavinaw Water Project; alternate bids are asked on two 12,000,000 gal. pumping units; one type, steam turbine driven centrifugal, the other, motordriven centrifugal; separate bids will be received for two 300 H. P. water tube boilers; Trammell and Holway, Engrs., 508 Wright Building, Tulsa; Dabney H. Maury, Conslt. Engr., 1445 Monadnock Block, Chicago, Ill.

S. C., Columbia—City will install two centrifugal pumps of 12,000,000 gals. capacity each per day; electrically driven; bids will be opened Aug. 7; W. S. Tomlinson, City Engr.

Tenn., Knoxville—North Knoxville Business Men's Club, J. Bailey Wray, Chrmn., interested in erection of entire new water works plant to cost several million dollars. (Lately noted.)

Tex., Sanger — City voted \$55,000 water works bonds, \$22,000 sewer bonds, \$7500 electric light bonds. Address the Mayor. (Lately noted.)

Va., Petersburg—Hampton Roads Sand & Gravel Co., Norfolk, Va., acquired water plant of the Arundel Corp.

Va., Staunton—City, J. W. H. Pilson, Mayor, will install soft water system; will probably vote in November on bonds.

W. Va., Lewisburg—Bids will be received at the office of The Engineering Service Co. in Professional Bldg., Charleston, W. Va. until July 25 for following material and equipment necessary for construction of water works: High pressure power pump low pressure centrifugal pump; 1 oil engine; 4000 ft. (approximately) of wrought iron, or 1500 lb test screwed line pipe; approximately 8000 ft. of 6-in. cast iron pipe, Class B, C, and D; mechanical parts for gravity filtra-

tion plant; F. H. Mays, Recorder, Town of Lewisburg.

W. Va., Wellsburg—City Council approved plans of Water Board for constructing filtration plant to cost approximately \$70,000.

Woodworking Plants

Mo., Cape Girardeau—Union Sash & Door Co., capital \$75,000, incorporated by C. W. Henderson, M. E. Leming, H. M. Dalton.

N. C., Henderson—Henderson Veneer Manufacturing Co., capital \$50,000, incorporated by C. F. Whitted, E. F. Shaw, R. C. McCain.

FIRE DAMAGE

Ala., Gadsden—Jeffy Echols' residence, 306 S. 4th St.; loss \$17,000.

Ala., Greensboro—Sidney Sanders' lumber mill; loss \$30,000.

Ala., Louisville—Grant Bros.' store; A. J. Lee's store; Bank of Louisville; J. M. Price Hardware Co.'s store; Ross Stephens Drug store.

Ala., Plantersville—Methodist Episcopal Church, South, Rev. G. W. Jones, Pastor.

Ark., Arkadelphia—Dona Hule's Saw Mill.

Ark., Auvergne—Clements Mercantile Co.'s store; loss \$15,000.

Ark., Fayetteville—Buildings occupied by Franke Mercantile Co., Carnation Bakery Co., and other structures; loss \$15,000; building owned by H. M. Hudgens.

Ark., Fayetteville—Westfork Milling Co.; loss \$12,000.

Ark., Kingston—Kingston Spoke Factory, loss \$10,000.

Ark., Siloam Springs—A. B. Current Flour Mills, E. Main St., loss \$50,000.

Fla., Brewster—Acid phosphate unit of American Cyanamid Plant; estimated loss \$400,000; address Virginia-Carolina Chemical Co., Lakeland, Fla.

Fla., Jacksonville—C. R. Armstrong's residence at Sulphur Springs; loss \$50,000.

Fla., Jacksonville—B. & P. Motor Co.'s garage at Duval and Davis Sts.; loss \$50,000.

Fla., Sulphur Springs (Sta. Tampa)—C. R. Armstrong's residence; loss \$50,000.

Ga., Douglas—Georgia & Florida R. R.'s depot, S. Baldwin, Ch. Engr., Augusta; J. C. Brewer's 4 residences; Douglas Hardware Co.'s storage house; Henley Restaurant; loss \$50,000.

Ga., Lyerly—Jno. S. Cleghorn & Co.'s store and warehouses; Dr. H. D. Brown's office; Smith Printing Co.'s building; Taylor's Meat Market; Harrison Manufacturing Co.'s building.

Ky., Winchester — David S. Gay's warehouse.

La., New Iberia—M. Scharff & Son's store.

Md., Baltimore—Racer dip and 6 concession booths at Wonderland Park.

Md., Baltimore—Portion of wharf foot of Lakewood Ave., owned by J. S. Young Co., 2701 Boston St.; estimated loss \$50,000.

Md., Tilghmans Island—T. W. Harrison's garage; loss \$10,000.

Miss., Blue Mountain—A. W. Wardlow's planing mill and Murry's store; estimated loss \$15,000.

Miss., Bonita—M. M. Lockard's brick manufacturing plant, loss \$10,000.

Miss., Lyon—Mrs. E. L. Fontaine's residence; loss \$10,000.

Mo., Kansas City—Boley Building, 12th and Walnut Sts., occupied by Parkard Shoe Co. and others.

N. C., Burlington—Midway Foundry Co.'s plant; loss \$60,000; building owned by W. N. Thompson.

N. C., Burlington—Thompson-Sexton Manufacturing Co.'s plant; loss \$60,000.

N. C., High Point—Efrid's Department Store, M. W. Crooks, Mgr.; loss \$60,000.

N. C., Marshville—Union Lumber Co.'s plant; loss estimated at \$50,000.

Okla., Kingfisher—Halliday Produce Co.'s building; loss \$15,000.

Okla., Okemah—Cheek Hotel. Address The Proprietor.

S. C., Columbia—Mrs. V. T. Outlaw's residence, 318 Edisto Ave., Rose Hill.

Tenn., Chattanooga—Office building under construction for Southern Ry. Co.; loss \$10,000.

Tenn., Murfreesboro—W. Earthman and R. C. Wilson's building; T. H. Harrison's building; loss \$20,000; Overall & Avent's building; loss \$20,000.

Tenn., Nicholson, P. O. Fort Ridge—Beech Creek Coal Co.'s tippie and coal washer; property owned by J. P. Kivett, Tazewell, Tenn.

Tenn., Rockwood—Ensminger Building occupied by Roane Overall Co., Joe Bernard, Rockwood Candy Kitchen, Zaharris & Kouminis and others.

Tex., Austin—Stern Grain Co.'s warehouse; loss \$10,000.

Tex., Blox—Kirby Lumber Co.; loss \$50,000.

Tex., Coleman—Henderson & Robey's building; Main St., Woodward Building; loss \$50,000.

Tex., Dallas—Texas Wheel & Body Co.'s plant at Commerce and Dive Sts.; loss estimated at \$75,000.

Tex., El Paso—Building occupied by the Chocolate Shop, Myer & Klein, and the New Hotel Fay; total loss \$40,000.

Tex., Holliday—Camel Garage; Berry Barber Shop; Farmers Bank Bldg.; W. R. Brown

Restaurant and Hotel; Jno. Tolley Confectionery; Lee Masters' restaurant.

Tex., Mexia—Candy factory, building owned by Mrs. N. P. Houx; loss \$10,000.

Tex., Mexia—Portion of plant of the Uvalde Paving Co., loss \$10,000.

Tex., Pilot Point—Rudolph Blumberg's residence, 6 miles N. E. of Pilot Point; loss \$8000.

Tex., Sherman—Knights of Pythias Bldg., loss \$10,000; Metz Bldg., loss \$5000; water damage to Fulmer & Brittain's building, \$7500, and office of Daily Chronicle in K. of P. Bldg., \$12,000.

Tex., Stamford—City's incinerator plant. Address The Mayor.

Tex., Tyler—Swann Building owned by B. W. Roland Estate.

Va., Bristol—Details under Land Developments.

Va., Clover—School building and auditorium; loss \$10,000. Address The Mayor.

Va., Hampton—Mess Hall of National Soldiers Home.

Va., Norfolk—Joseph Voight's pickle factory and cold storage plant; loss \$16,000.

Va., Parksley—Parksley High School; loss \$20,000. Address Board of Education.

Va., Vinton—Vinton Milling Co.'s plant, loss not estimated.

W. Va., Fairmont—Oil Tank of the Eureka Pipe Line Co. at Downs; loss \$70,000.

Damaged by Explosion.

Mo., Kansas City—Interstate Refineries, Twenty-second and Manchester Sts.; loss not estimated.

Damaged by Storm.

Fla., Alton—Standard Lumber Co.'s commissary building; loss between \$25,000 and \$36,000.

Bank and Office

Fla., Miami—Bank of Bay Biscayne, Jas. H. Gilman, Pres., will erect \$800,000 bank and office building, N. Miami Ave. and W. Flagler St.; 12 stories; 140 x 140 ft.; steel frame; fireproof; composition roof; hollow fireproof and interior tile; metal ceilings and doors; vaults; mail chutes; vault lights; ventilators; ornamental terra cotta; steel sash and trim; wire glass; hot water heat for banking rooms, \$5000, electric traction elevator; floors not determined; Weary & Alford Co., Archts., 1923 Calumet Ave., Chicago; Pfeiffer & O'Reilly, Asso. Archts., Miami; will let separate contracts; Diebold Saff & Lock Co., Canton, Ohio, Franz Safe & Lock Co., Jacksonville, Fla., representative, contr. for complete vault outfit. (Foundation lately noted let to R. C. Miller, Miami.)

Md., Baltimore—Commonwealth Bank, Jas. R. Wheeler, Pres., Madison and Howard Sts., will erect 1½-story brick addition; 22x93x24 ft.; cost \$25,000.

Mo., St. Louis—Telegraphers' National Bank, Otto J. Gossrau, Vice Pres.-Mgr., is considering erecting 4 additional stories to building, Broadway and Pine Sts.; probable cost \$250,000.

N. C., Durham—Duke Land & Improvement Co. has postponed indefinitely erection office building at Corcoran and Parish Sts. (Lately noted.)

Tex., Dallas—W. T. and C. C. Doyle will erect 2-story brick building, Jackson and St. Paul St.; cost \$25,000; 100x52 ft.; half of first floor leased to Oriental Oil Co.; J. A. Pitzinger, Archt., Dallas.

Churches

Fla., Leesburg—Baptist Church, Rev. S. P. Mahoney, Pastor, will erect \$45,000 building.

Fla., Leesburg—Presbyterian Church, Rev. W. H. Fahs, Pastor, is remodeling and erecting addition to building; stucco exterior; cost \$20,000.

Ga., Atlanta—Druid Hills Methodist Church, W. D. Thomson, Supt. of Sunday school will erect \$160,000 Sunday school building; gymnasium, shower baths, separate auditorium for each dept., roof garden etc.; Hentz, Reid & Adler, Archts.; Ivy & Cook, Asso. Archts.; both Atlanta.

Ga., Cedartown—W. H. Cooper will receive bids until July 17 for erection of Sunday school building; plans from Mr. Cooper and T. L. Brodie, Archt., Jefferson County Bank Bldg., Birmingham, Ala.

La., New Orleans—Baptist Church, Colored, Dr. R. O. Sanders, Chmn. Board of Trustees, 2602 Howard Ave., will erect \$25,000 brick building on Third St., near Franklin St.; will use present basement for foundation; 50x120 ft.; repair and use present slate roof; Walter Cook Keenan, Archt., London, Liverpool & Globe Bldg., New Orleans.

La., New Orleans—Central Baptist Church, Rev. W. A. Jordan, Pastor, plans to erect \$25,000 auditorium, Jefferson Davis Parkway and Cleveland St., as first unit of \$75,000 structure.

La., Shreveport—Texas Avenue Methodist Church will erect \$40,000 to \$50,000 building, probably Allen Ave. near Laurel St.; auditorium, basement, Sunday school rooms, etc.; drawing plans. Address The Pastor.

Okla., Weleetka—Christian Church, Rev. F. H. Shaul, Pastor, Box No. 772, is erecting \$30,000 brick building; 2 stories; 61 x 71 ft.; bowl-shape hardwood floors; brick foundation; built-up roof; metal ceilings; Raymond Kerr, Archt., Henryetta; day labor; heating, lighting and plumbing not decided. (Lately noted.)

Tex., Beaumont—Antioch Baptist Church

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Ark., Little Rock—Central Trades and Labor Temple Assn., Louis H. Moore, Sec., Arkansas State Federation of Labor, will erect \$100,000 Labor Temple, 6th and Scott Sts.; 6 stories with foundations to carry additional stories.

Ark., Conway—Rogal Arch Chapter and Knights Templar, A. F. & A. M., plan to rent or erect new building.

Mo., Altamont—Altamont Lodge No. 108, Ben H. Kuhns, Sec., will erect brick building to replace burned structure; 30 x 90 ft.; metal ceilings. (Lately noted.)

Mo., University (Station St. Louis)—University Temple Assn. purchased site for University Lodge No. 649, A. F. & A. M., at Delmar Blvd. and Trinity Ave., for \$150,000 Temple; 2 stories; 100x50 ft.; Greek design; Bedford stone columns and walls; indirect heating and lighting and mechanical ventilation; Louis XIV banquet hall and Georgian type library; J. W. Leigh, Archt., Railway Exchange Bldg., St. Louis.

N. C., Concord—Stokes Lodge No. 32, A. F. & A. M., purchased site, Union and Corbin Sts., and plans to erect 7-story temple; Wm. H. Peeps, Archt., Charlotte.

Okla., Okmulgee—Okmulgee Council, Boy Scouts, Carl W. Barnes, Executive, Council House, will erect \$10,000 native stone lodge, 5 miles north of Okmulgee; 56 x 72 ft.; shingle roof; wood floors; electric lights; fireplace; Smith & Senter, Archts., Commerce Inv. Bldg., Okmulgee; day labor. Address Mr. Barnes. (Lately noted.)

Tenn., Coal Creek—Knights of Pythias will erect brick building, Dixie Highway; 126-ft. frontage; 6 stores on first floor, 9 offices and lodge room above.

Tex., Mexia—Dr. David Carson Bayless, Mexia, and Denver, Colo., is Chmn. of Bldg. Comm. to erect Y. M. C. A.; \$70,000 available; general plans by Bldg. Bureau, International Comm., Y. M. C. A., 347 Madison Ave., New York; Jesse F. Denning, Mexia, Archt. and member of Bldg. Comm. (Previously noted.)

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

will erect \$25,000 building, Forsythe St. near Park St. Address The Pastor.

Tex., Dallas—Central Christian Church, Rev. Graham Frank, Chmn., Bldg. Comm., will remodel building; install heating plant, indirect lighting system, air washer and probably cooling system; new furniture; cork linoleum floors; C. C. Bulger, Archt., 611 Praetorian Bldg., Dallas.

Tex., Dallas—Ross Avenue Christian Church, McCoy St. and Ross Ave., East Dallas, Dr. W. M. Williams, Editor, Christian Courier, Act. Pastor, will erect building, Llano St. and Greenville Ave., Belmont, East Dallas.

Tex., Fort Worth—St. Paul M. E. Church will erect \$80,000 building; U-shape; 2 stories and basement; face brick; cement stone trim; metal shingle, tar and gravel roof; pine finish; oak floors; art and plate glass; hot blast heat; electric wiring; W. C. Meador, Archt., 910 Dan Waggoner Bldg., Fort Worth.

Tex., Lubbock—Baptist Church, Rev. Mr. Bowen, Pastor, will erect building; work started.

Tex., Trenton—First Methodist Church plans to erect walls and roof for first unit; bids opened July 16; concrete foundation completed. Address The Pastor.

W. Va., Ronceverte—First Presbyterian Church will erect \$60,000 building; brick; art stone trim; 2 stories and basement; about 67x92-ft.; oak finish; steam heat; rolling and folding partitions; Herbert L. Cain, Archt., 12 N. 9th St., Richmond, Va.; bids opened and contract let July 27. Address G. A. Jordan, Ronceverte, W. Va. (Lately noted.)

City and County

Ala., Muscle Shoals—City Hall—City will erect city hall; construction to start Aug. 1. Address The Mayor.

Ark., Hamburg—Courthouse—Ashley County, Y. W. Etheridge, County Judge, will receive bids until Aug. 1 to erect courthouse; no bid received for more than \$75,000; plans and specifications on file at office County Clerk, Hamburg; Thompson & Harding, Archts., Little Rock. (Lately noted.)

Fla., Daytona—Fire Station—City, Mayor Archibald, plans to call \$670,000 bond issue, including \$10,000 for fire station.

Fla., Fort Pierce—Courthouse—St. Lucie County plans to erect addition on east side of present structure; has authority to issue \$75,000 in time warrents to finance. Address County Comms.

Fla., Miami—Courthouse—Dade County, J. W. Carey, Chmn., County Comms., plans to erect courthouse.

Ga., Savannah—Detention Home—Chatham County will erect 1-story detention home for white women; wood; probably shingle roof; 60-ft. screened porch; to be called Hampstead Home. Address County Comms.

Mo., Kansas City—Fire Stations, etc.—City, Mayor Cromwell, plans to vote on about \$2,000,000 bonds in October, to include \$750,000 to \$1,000,000 for 6 new fire stations and equipment.

N. C., Lumberton—Home—Robeson County will erect \$100,000 home; hollow fireproof tile; concrete floors; vaults; ventilators; steel sash and trim; wire glass; Wilson & Berryman, Archts., Columbia, S. C., Wilson and Gastonia, N. C.; plans completed about Sept. 1. (Lately noted.)

S. C., Spartanburg—Fire Station and Equipment—City, J. F. Floyd, Mayor, plans to vote on \$500,000 bonds, including \$40,000 for fire station and equipment.

Tex., Brownwood—Auditorium or Memorial Hall—City plans to erect \$50,000 municipal auditorium or memorial hall, Baker St.; 200x207 ft.; capacity 7000; basement for Isham A. Smith Post, American Legion; will call bond election. Address The Mayor.

Tex., Greenville—Courthouse and Jail—Hunt County, Judge McWhirter, County Judge, has rescinded order for election July 21 on \$400,000 courthouse and jail bonds. (Lately noted.)

Tex., Texarkana—City Hall—City will call special election Aug. 14 on \$200,000 bonds for municipal building. Address The Mayor.

Va., Norfolk—Armory—City will erect armory at Princess Anne Ave. and Salter St.; \$67,000 appropriation available; will call for bids in week or 10 days. Address City Council.

W. Va., Charleston—Auditorium-Market—City, Mr. Wertz, Mayor, plans to erect municipal auditorium and market house building, probably on site of Red Cross bldg.; auditorium to seat 5000.

Dwellings

D. C., Washington—Mrs. Lucy B. Watts will erect 8-room residence, Country Club Rd., near Lee Highway, Lee Heights, Arlington County, Va.; construction begun.

Fla., Avon Park—Raab & Winter will erect 5 dwellings in various sections; also plan to erect 5 additional dwellings later.

Fla., Chipley—G. C. Miller, M. D., will erect \$10,000 residence and garage; lately noted; brick, rock and wood; tile roof; tile and wood floors; metal ceilings. (See Machinery Wanted—Roofing (Tile).)

Fla., West Palm Beach—H. C. Daniels will erect 10 Spanish type dwellings on Dixie Highway, Bon Air sub-division, south borough, to sell at \$4500 to \$5000 each.

Ga., Elberton—Dave Hudson will erect residence, Church St. extension.

Ga., Elberton—Elmer Maxwell will erect residence, Church St. extension.

Ga., Elberton—Willie Thornton will erect residence, Church St. extension.

Md., Baltimore—Columbia Building Co., 3311 McElderry St., will erect 24 brick dwellings, 601-23 and 600-22 N. Clinton St.; 2 stories; 15x28x28 ft.; total cost \$75,000.

Md., Baltimore—Geo. Kilian, Holder Ave., Lauraville, will erect four 1½-story frame dwellings, south side Holder Ave., south of Reuchert Ave.; five rooms; semi-bungalow type; total cost \$13,000; will also erect 3 frame bungalows, south side Holder Ave., west of Echodale Ave.; 1½ stories; total cost \$8500.

Md., Baltimore—Younger & Riddle, Woodlawn, will erect 9 two-story frame cottages, north side Springdale Ave., west of Hillsdale Road; total cost \$40,000.

Md., Baltimore—George W. Schoenhals, 101 S. Linwood Ave., will erect 17 two-story brick dwellings, 2300-32 Calverton Hgts. Ave.; 16x55 ft.; slag roof; hot water heat; total cost \$34,000; Jos. F. Hirt, Archt., 829 N. Luzerne Ave., Baltimore; owner builds. (Lately noted.)

Md., Baltimore—Allied Construction Co., 445-47 Equitable Bldg., will erect 8 dwellings, N. E. cor. Virginia and Waldorf Aves., and 2 on S. E. cor.; also 10 dwellings, S. E. cor. Reistertown Rd. and Virginia Ave.; all 2 stories; brick; total cost \$61,000.

Md., Baltimore—International Engineering & Construction Co., 102 E. Hamilton Ave., will erect 4 two-story brick dwellings, north side Presstman St. near Ellamont St.; total cost \$12,000.

Md., Baltimore—Robt. T. Miller, 100 Edge-

vale Rd., Roland Park, will erect 2½-story brick dwelling and garage, south side Highfield St., S. E. of Greenway; 61x39x29 ft.; cost \$40,000.

Md., Baltimore—Progressive Bldg. Co., 3535 Liberty Hgts. Ave., will erect 15 two-story brick dwellings, 2301-29 Lauretta Ave.; total cost \$75,000.

Md., Baltimore—Wm. L'Allemand, 4005 Kathland Ave., will erect two 3-story frame dwellings, 4103-05 Meriwent Ave.

Md., Baltimore—Walter Koch will erect two 2½-story frame dwellings, 4021-23 Barington Rd.; total cost \$12,000.

Md., Baltimore—J. E. Stansbury, Pres., J. E. Stansbury, Inc., 2852 Pennsylvania Ave., will erect 5 two-story brick dwellings, 2200-08 N. Monroe St.; one 22x34x29 ft., four 20x30x25 ft.; total cost \$25,000; Geo. Wessel, Archt., 3001 Lyttleton Rd., Baltimore. (Lately noted.)

Md., Baltimore—N. Wanderstock, 4503 Maine Ave., will erect \$20,000 duplex cottage, S. E. cor. Montebello Lake Drive and Glenwood Ave.; 2½ stories; Stanislaus Russell, Archt., 11 E. Lexington St.

Mo., Carthage—G. Frank Johnson will erect residence on Prospect Ave.

Mo., Independence—Roy W. Bachman will erect stone veneer residence, N. Liberty St.

Mo., Independence—C. G. McMillion will erect bungalow, 414 E. Kansas St.

Okla., Oklahoma City—John W. Teter, Vice-Pres., First National Bank, will erect \$40,000 residence, Hudson Ave. and 15th St.; G. A. Nichols Co., Archt., Oklahoma City.

S. C., Conway—D. M. Burroughs rejected bids and has deferred erection of residence.

Tenn., Johnson City—First Presbyterian Church is erecting \$20,000 brick manse. Address The Pastor.

Tenn., Knoxville—J. B. Carr will erect \$18,000 residence, Kingston Pike, west of Cherokee Blvd.; 8 rooms; 2 stories and basement; hollow tile and stucco; Barber & McMurphy, Archts., Knoxville.

Tenn., Memphis—Ernest C. Cook, Vance Ave. and Willett St., will erect stone and stonekote dwelling, 1534 Vance Ave. and brick dwelling, 1532 Eastmorland St.; both 2 stories; hardwood floors; concrete foundations; composition roofs; plans and construction by owner. (Lately noted.)

Tex., Ballinger—R. L. Harwell will erect residence; Paul G. Silber & Co., Archts., 331 Bedell Bldg., San Antonio; bids opened July 17.

Tex., Dallas—Dines Building Co. will erect \$17,000 brick veneer dwelling; 2 stories; 44 x 55 ft.; oak floors; pine finish; slate roof; electric wiring; Bertram Hill, Archt., Interurban Bldg., Dallas; owner builds.

Tex., Dallas—Wesley Porter Mason will erect 9-room brick residence; stone trim; tile or slate roof; tile baths; oak floors; electric wiring; Clarence C. Bulger, Archt., 611 Praetorian Bldg., Dallas.

Tex., Dallas—M. B. Shannon will erect \$35,000 to \$40,000 brick veneer residence; 2 stories; 12 rooms; stone trim; Creo-Dipt shingle or slate roof; oak floors; tile bath; hot water heat; electric wiring; Fred F. and C. F. Peterman, Archts.-Constr. Engrs., 502 Mercantile Bank Bldg., Dallas.

Tex., Fort Worth—John R. Church will erect \$50,000 residence, Mistletoe Hgts.; 2 stories; brick and hollow tile; cut stone trim; Jos. R. Pelich, Archt.-Constr. Supervisor, Fort Worth.

Tex., Galveston—John A. McClellan will erect \$28,000 residence, Bute and W. Main Sts.; 10 rooms; 2 stories; tile, stucco and brick; slate roof.

Tex., Houston—John H. Hooker will erect brick and hollow tile residence; 2 stories; 9 rooms; J. W. Northrup, Jr., Archt., 405 West Bldg., Houston.

Tex., San Antonio—Mrs. Annie E. Chittim will erect concrete frame residence; tile and stucco; Seutter & Simons, Archts.; Wagner & Schifers, low bid at \$58,819 for residence; other low bids as follows: Moeller & Wellbacher, swimming pool, \$4800 garage, \$11,066, water tower, \$8461; Chalkley Bros., plumbing, \$4729; Open Shop Plumbing Co., for heating house, \$2988; Martin Wright, electrical work at \$2144 for residence and \$164 for garage; all San Antonio. (Previously noted.)

Tex., Waelder—R. D. Miller will erect 2-story brick, tile and concrete residence; about 45 x 54.2 ft.; wood floors; concrete foundation; green tile roof; warm air heat; 3 sets of plumbing fixtures; Will N. Noonan, Archt.; V. L. Rasmussen, low bidder at \$32,144; both San Antonio. (Lately noted.)

Va., Richmond—S. B. Bealey will erect 3 two-story, frame and stucco dwellings, 3211-1316 Cliff St.; total cost \$15,000.

Va., Richmond—Mrs. P. A. McCarty will erect \$14,500 cinder block residence, 1220 W. Franklin St.; 2 stories.

W. Va., Charleston—Dr. R. H. Merrill will erect English type residence and servants' quarters, South Hills; cost \$40,000; brick, stucco and half timber; variegated slate roof; loggia, linen closets, etc.; Fred Crowther, Archt., 312 Morrison St., Charleston. (Lately noted.)

W. Va., Charleston—Dr. J. H. Wick will erect \$23,500 residence, Valley Rd., Edgewood addition; 2 stories and basement; brick and tile; tile roof; 10 rooms.

W. Va., Tabler—W. H. & Emory Thomas will erect 5 dwellings for employees.

W. Va., Welch—Antonia Camela will erect \$10,000 two-story brick residence, Court St., opposite Polon Bldg.; double garage under front wall.

Government and State

Fla., Fort Pierce—Post Office—Fort Pierce Bank & Trust Co. will erect 2-story building adjoining present structure; reinforced concrete and hollow tile faced with brick; section to be occupied by post office; several stores on first floor, offices above.

Md., Annapolis Junction—Home—District of Columbia, J. Franklin Bell, Engr. Commr., Washington, D. C., purchased 827-acre farm, 1/2 mile east of Annapolis Junction, as site for Home of Feeble Minded; \$62,000 available at present for building; additional \$200,000 later. (Lately noted.)

W. Va., Wheeling—Post Office and Courthouse—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will receive bids until Aug. 10 for construction of new lookout gallery in post office and courthouse; drawings and specifications from Custodian at site or from office Supervising Archt.

Hospitals, Sanitariums, Etc.

Ala., Montgomery—Hospital Board of M. E. Church, South, C. J. Jarrell, Sec., local Bldg. Comm., will erect maternity wing and improve present building; cost about \$100,000.

Ark., Booneville—Tuberculosis Sanatorium, Jos. M. Hill, Pres., Board of Trustees, Fort Smith, will receive bids until July 20 for erection of building to accommodate 24 patients and attendants and annex to east end of Kie Oldham Hall to accommodate 12 patients and 12 nurses; also for rooms for X-ray and dental departments, on west end

of Kie Oldham Hall on Tuberculosis Sanatorium grounds near Booneville; plans at offices of A. Klingensmith, Archt., Fort Smith, and J. F. Loughborough, Little Rock, and at site.

Ark., El Dorado—Knights of Ku Klux Klan, Jas. A. Comer, Grand Dragon of Arkansas, will erect Elma Coble Comer Memorial Hospital; cost \$125,000; accommodate 75 patients; glass operating room; nurses' home connected with hospital.

La., Shreveport—Drs. L. Abramson and A. A. Herold will erect 3-story fireproof sanitarium, Hamilton Terrace; reinforced concrete faced with brick; cast stone trim; 127.6 x 76 ft.; glass enclosed porches, each 14 x 34 ft.; 48 rooms, offices, etc.; Henry E. Schwarz, Archt., 805 Ardis Bldg., Shreveport; Buchanan & Boone, Haynesville, is low bidder at \$143,910. (Lately noted.)

Mo., Joplin—Freeman Hospital, 20th St. and Sergeant Ave., Rev. J. F. King, Pastor, First M. E. Church, Chmn., Bldg. Comm., will erect Freeman Memorial Hospital and use present structure for administration building; 50-bed capacity; total of 72 rooms; cost \$100,000 to \$125,000; plans by Ernest W. Dearing, Archt., Board of Hospitals and Homes of M. E. Church, Boston, Mass. (Lately noted.)

Tenn., Chattanooga—City, A. W. Chambliss, Mayor, voted \$175,000 bonds for Erlanger Hospital. (Lately noted.)

W. Va., Welch—Dr. C. F. Hicks, Huntington, will erect 30-room hospital, Virginia Ave., Woodland Park addition.

Hotels and Apartments

Ala., Birmingham—Highland Apartment Co., Inc., B. R. Pegram, Pres., will erect Highland Plaza Apartments, Highland Ave. and Elm St.; cost \$800,000; 8 stories; 100x195 ft.; fireproof; brick; stone trim; 85 suites with bath; public dining room; storage space for 60 motor cars in basement; Wm. L. Denham, Archt.; Smallman-Brice Construction Co., Contr., both Birmingham.

Ala., Opp—Benton Hotel Co. will erect building on Railroad Ave.; 2 stories; brick; colonial style; 40 rooms with 30 private baths; steam heat; Weatherly Carter, Archt., Montgomery.

Ark., Hot Springs—Chas. G. Orr, care W. T. Vahlberg, Archt., Security Bank Bldg., Hot Springs, will erect building to replace Marquette Hotel; cost \$250,000; 93x75 ft.; 6 stories and mezzanine; fireproof; hollow fireproof and interior tile; hardwood and concrete floors; wire glass; vaults; mail chutes; ventilators.

Fla., Miami—Hillsborough Beach Development Co., Franklin M. Thompson, Pres., will erect 100-room hotel, casino and bath houses in connection with development of 115-acre tract on ocean beach, Hillsborough Bay.

Fla., Pine Castle—Auto-Tel. Co., M. O. Overstreet, Pres., Orlando, will erect 60-room hotel, ten 2-room cottages, automobile service garage, filling station, storage garage, restaurant, cafeteria, etc.; cost \$100,000; F. H. Trimble, Archt., Orlando.

Miss., Bay St. Louis—Bay Hotel Co., H. S. Weston, Pres., will erect \$110,000 tourist hotel; 2 stories; 50 rooms; fireproof; reinforced concrete; brick and stucco trim; W. T. Nolan, Archt., Canal Commercial Bldg., New Orleans. (Lately noted.)

Tenn., Memphis—Ben Ballard will erect 2-story apartment, 1700 N. Parkway; cost \$10,000; 12 room; brick veneer.

Tenn., Memphis—Thomas & Cohen will erect apartment house; \$60,000; 2 and 3 stories; 86 x 96 ft.; 12 suites of 5 rooms;

tile and tar gravel roof; hardwood and tile floors; concrete foundation; vapor heat; Estes W. Mann, Archt., Memphis. (See Machinery Wanted—Beds (In-A-Door).)

Tenn., Nashville—W. M. Schardt will erect \$10,000 apartment, 1227 16th Ave.; 2 stories.

Tenn., Nashville—P. E. Dunnivant will erect apartment house, 1404 Hawkins Ave.; cost \$12,000; 2 stories; 4 suites; brick.

Tenn., Nashville—M. G. Fisher will erect apartment house in 3800 block, Harding Road; 3 stories; 6 suites of 5 rooms; brick; stone trim; tile baths; Charles A. Ferguson, Archt., Nashville.

Tex., Dallas—Clarke & Reed will erect apartment house; cost \$400,000; 4 or 5 stories and basement; fireproof; brick, cast stone and reinforced concrete; gravel roof; oak floors; tile baths; gas steam heat; electric wiring; natatorium and clubrooms in basement; D. D. Swindle, Archt., 1707 1/2 Main St., Dallas.

Tex., Eastland—A. C. Garner, Dublin, will erect hotel at W. Main St.; cost \$200,000; 4 stories; 75 rooms.

Tex., El Dorado—P. E. Morgan will erect apartment house on West Main St.; cost \$30,000; eight four-room and four 6-room suites.

Miscellaneous

Fla., Orlando—Clubhouse—Orlando Golfers Assn., W. D. Rogers, Pres., will erect clubhouse and grill; construct 18-hole golf course; cost \$100,000.

Mo., Bethany—Fair—North Missouri Dist. Fair Assn. plans to erect poultry exhibit building, bandstand and enlarge main pavilion.

Mo., St. Louis—Clubhouse—Union Electric Light & Power Co., Louis Egan, Pres., will erect clubhouse on 50-acre site at Fern Glen.

Mo., Kansas City—Orphanage—W. C. Root, is preparing plans for orphans' home at Twenty-Third St.; cost \$30,000.

N. C., King—Restaurant, etc.—T. E. Smith will erect restaurant and rooming house on E. Main St.; 2 stories; cement blocks.

N. C., Wilmington—Fair—Southeastern Fair Assn. will erect building for display booths on 4th St.; 60 x 175 ft.

Okla., Shidler—Clubhouse—Shidler Country Club leased 160-acre tract and will erect 2-story clubhouse.

Tex., Dallas—Fine Arts and Auditorium—Jas. R. Saville, 6010 Belmont Ave., will erect \$450,000 fine arts building and auditorium; 6 stories and basement; 125x200 ft.; steel, concrete and brick; slate and composition roof; concrete, tile and cork floors; interior tile; ornamental terra cotta; mail chutes; vault lights; steam heat; bids about Sept. 1; R. H. Hunt Co., Archts., S. W. Life Bldg., Dallas. (Lately noted.)

Tex., El Dorado—Undertaking Company—E. J. Elder will erect two buildings to replace burned structures.

Tex., Lubbock—Fair—Panhandle South Plains Fair will erect 2 buildings at Country Recreation Park.

Railway Stations, Sheds, Etc.

Ky., Paducah—Nashville, Chattanooga & St. Louis Ry. Co., Hunter McDonald, Ch. Engr., Nashville, Tenn., will erect \$250,000 unit of terminal for offices and station; 2 stories; fireproof; will also construct 6 tracks with tobacco platform; Mr. McDonald will supervise construction.

Schools

Ala., Albany—City will vote July 24 on \$55,000 bonds to repair and remodel present schools and equip high school under construction; R. W. Cowart, Supt. of Schools.

Ark., Hector—School Board will erect building; 2 stories; 4 classrooms and auditorium; frame.

Ga., Atlanta—Board of Education plans to request special election after September 5th primary on \$5,000,000 bonds.

Ga., Ingleside—Ingleside School Dist. voted \$95,000 bonds to erect high school; R. E. Carroll, Supt. of DeKalb County Schools, Decatur.

Ga., Thomasville—City will probably vote in Sept. on \$150,000 bond issue. Address School Board.

La., Baton Rouge—Louisiana State University Bldg. Comm., R. L. Himes, Sec., will erect stock-judging pavilion; 100x200 ft.; Theo. C. Link, Archt., Fourth floor, Capitol Bldg., Baton Rouge.

La., Lafayette—Sigma Phi Alpha Fraternity at Southwestern Institute plans to erect frat house.

La., New Orleans—School Board, J. A. Fortier, Pres., rejected bids to erect Capdau School at Franklin Ave. and Jonquil St.; B. A. Christy, Supervising Archt., New Orleans. (Lately noted.)

La., Slidell—St. Tammany Parrish School Board, Covington, will erect high school; \$70,000 bonds available; W. T. Nolan, Archt., Canal Commercial Bldg., New Orleans. (Previously noted.)

Md., Baltimore—Calvert School, V. M. Hillyer, Head Master, 10 W. Chase St., will erect school at University Circle and 40th St.; 256 ft. front with 3 wings extending 130 ft. to rear; one and two stories; ground floor, brick; second floor, frame and stucco; slate roof; steam heat; bids opened July 23; Laurence Hall Fowler, Archt., 347 N. Charles St.; following contractors estimating: Cogswell-Koether Co., 406 Park Ave.; Price Construction Co., 210 Maryland Trust Bldg.; Consolidated Engineering Co., Calvert Bldg.; Thos. Hicks & Sons, Inc., 106 W. Madison St.; North-Eastern Construction Co., Lexington Bldg.; L. L. Chambers, 36th St. and Roland Ave.; B. F. Bennett Bldg. Co., 123 S. Howard St.; all Baltimore.

Miss., Bay St. Louis—City defeated \$100,000 bonds to erect high school. (Lately noted.)

Miss., Morgan City—City will vote Aug. 4 on \$10,000 bonds to erect teachers home and repair school building. Address School Board.

Mo., St. Louis—Board of Education will erect \$40,000 school at Henrietta St. and Theresa Ave.

N. C., Aberdeen—School Board will erect teacherage; brick; Jas. B. Lynch, Archt., Wilmington.

N. C., Busick—Guilford County Board of Education, Greensboro, will receive bids until July 23 to erect elementary schools at Busick and Ridgefield; plans and specifications at office Linthicum & Linthicum, Archts., Raleigh.

N. C., Concord—School Commissioners retained E. S. Draper, 11 E. 5th St., Charlotte, as landscape architect to plan development of 17-acre tract adjacent to high school.

N. C., Germanton—Stokes County School Board will receive bids until July 19 (extended date) to erect \$40,000 building; 1 story; brick; 10 classrooms and auditorium to seat 750; plans and specifications at office W. C. Northrup, Archt., Starbuck Bldg., Winston-Salem. (Lately noted.)

N. C., Hickory—City will vote July 31 on \$250,000 bonds to erect \$225,000 high school and \$25,000 improvements to other buildings; C. Gadsden Sayre, Archt., Anderson, S. C., and Raleigh, N. C. (Lately noted.)

N. C., Kinston—Caswell Training School, Dr. C. Banks McNairy, Supt., will receive separate bids July 31 for construction of laundry building and installation boilers, engines, generators and switchboard; plans and specifications at office H. A. Underwood, Engr., 916 Commercial Bank Bldg., Raleigh. (See Machinery Wanted—Laundry Equipment; Boilers; Engines; Generators; Switchboard.)

N. C., Lenoir City—City defeated \$40,000 school bond issue. Address The Mayor. (Lately noted.)

N. C., Raleigh—North Carolina State College of Agriculture & Engineering will erect \$70,000 addition to textile building; equipment \$35,000.

Okla., Bristow—Board of Education will receive bids until Aug. 15 to erect \$25,000 extension to East Side ward school; 50 x 108 ft.; brick; built up roof; hardwood floors; steam heat, \$4000; ventilators; C. Lee Curran, Archt., 222 Groom Bldg., Bristow. (Lately noted.)

Okla., Purdenville—Board of Education, School Dist. No. 21, C. W. Burbank, Clk., will erect building; bids until July 17; separate bids for heating and plumbing; plans and specifications by M. T. Hardin, Archt., 503-4 Equity Bldg., Muskogee, on file at office Mr. Burbank, Purdenville. (See Machinery Wanted—Heating Plant; Plumbing.)

S. C., Aiken—City voted \$25,000 bonds to erect school. Address Board of Education.

S. C., Chicora—School Dist. No. 4 (North Charleston and Chicora sections) will erect 4-room addition to building and several schools for colored pupils; \$75,000 bonds voted. Address School Dist. Trustees.

S. C., Columbia—Chicora College, Dr. S. C. Byrd, Pres., will erect 3-story social center and dormitory and professors' houses; will erect number of buildings later.

S. C., Honea Path—School Board, Prof. L. L. Wright, Supt., will erect \$65,000 high school.

S. C., Spartanburg—School Dist. No. 12, G. C. Wolfe, Trustee, will erect building; bids opened July 18; A. R. Carlisle, Archt., Montgomery-Crawford Bldg., Spartanburg.

S. C., Walterboro—Walterboro School Dist. Trustees will erect high school; \$59,000 bonds voted. (Lately noted.)

Tenn., Andersonville—Board of Education will erect \$15,000 high school; brick.

Tenn., Chattanooga—City voted \$750,000 bonds to erect schools and improve present structures. Address Board of Education. (Lately noted.)

Tenn., Cleveland—City voted \$75,000 school bonds. Address The Mayor.

Tenn., Donelson—Davidson County Board of Education, R. D. Mills, Chmn., will erect \$20,000 high school.

Tenn., Halls—Halls Special School Dist. Trustees will erect \$30,000 building; 180x100 ft.; brick; metal roof; hardwood and wood block floors; wire glass; steam heat; ventilators; W. C. Lester, Archt., Scimitar Bldg., Memphis. (Lately noted.)

Tenn., Henderson—School Board will erect high school; \$10,000 bonds voted.

Tenn., Knoxville—Lewis S. Pope, Commr. of State Institutions, Nashville, will open bids Aug. 15 for erection of building for school for deaf and dumb.

Tenn., Madisonville—Monroe County Court will call election on \$260,000 school bonds, including \$135,000 for improvements in rural

districts, \$25,000 for Madisonville, \$25,000 for Tellico Plains, \$30,000 for Vonore and \$45,000 for Sweetwater.

Tenn., Nashville—City Board of Education, Dr. J. Paul Harvill, Pres., plans to erect school near Morgan Park, North Nashville; cost \$50,000.

Tex., Abilene—Simmons College, C. M. Caldwell, Pres., Board of Trustees, will erect \$110,000 dormitory; W. S. Castle, Archt., Abilene. (Lately noted.)

Tex., Beeville—Beeville Independent School Dist., Jno. R. Beasley, Pres., plans to vote on \$10,000 improvement bonds.

Tex., Ben Franklin—City voted \$16,000 bonds to erect school building. Address Bd. of Education.

Tex., Daingerfield—Daingerfield Independent School Dist. Trustees will erect building; cost \$15,000; bids opened July 16; T. J. Galbraith, Archt., Dallas. (Lately noted.)

Tex., Eagle Lake—Board of School Trustees will erect high school; cost \$115,000; 2 stories; reinforced concrete, brick and tile; concrete slab and built up roof; concrete slab, mastic, wood and tile floors; steel sash; metal trim; steam heat; Giesecke & Harris, Archts., Littlefield Bldg., Austin; bids opened about Aug. 15. (Lately noted.)

Tex., Gainesville—City will vote Aug. 7 on \$100,000 bonds to erect 2 schools and repair structure. Address Board of Education.

Tex., Georgetown—Southwestern University will install heating plant in administration building; also install pumping in administration building and boys' dormitory; cost \$17,000; Giesecke & Harris, Archts., Austin.

Tex., Gorman—City voted \$25,000 bonds to erect high school. Address Pres. Bd. of Education.

Tex., Hearne—School Board will erect \$10,000 negro school; 2 stories; frame; tar and gravel roof; also complete basement to high school; cost \$5000; plaster walls; concrete floor; metal ceiling; Edwin C. Kreisle, Archt., 803 Scarborough Bldg., Austin. (Lately noted.)

Tex., La Grange—School Board, Judge C. D. Krause, Pres., will receive bids until July 19 to erect high school; separate bids for plumbing, heating and wiring; plans and specifications at office C. H. Page & Bro., Archts., Austin. (\$115,000 bonds lately noted voted.)

Tex., Levelland—Levelland Independent School Dist. voted \$50,000 school building bonds. Address School Dist. Trustees.

Tex., San Antonio—School Bd. will erect 6-room auditorium at Douglass (negro) High School; also 4-room additions to Grant School, No. 27 School, Cullins Garden School and Highland Park School; Phelps & De-wees, Archts., San Antonio.

Tex., Southland—Southland Independent School Dist. Trustees will erect \$33,000 high school; 8 classrooms and auditorium; Peters & Haynes, Archts., Lubbock; bids opened July 14.

Tex., Sterling City—City will vote Aug. 4 on \$50,000 school bonds. Address Board of Education.

Tex., Vernon—Board of Education, A. F. Wilton, Sec., will erect \$110,000 high school; 2 stories; fireproof corridors and stairs; brick; Guy A. Carlander, Archt., Amarillo.

Va., Metomkin—Metomkin School Dist. is considering election on \$125,000 bonds to erect building at Parksley to replace burned structure. Address Dist. School Trustees.

Va., Rocky Mount—School Board will receive bids until July 31 through Smithey & Tardy, Anchor Bldg., Roanoke, and R. E.

Ferguson. Rocky Mount, to erect high school.

W. Va., Charleston—Rev. Wm. Lee, care Sacred Heart Church, is interested in establishment of parish at Kanawha City and plans are being made for erection of combination church and school near 23rd St.; cost \$20,000; brick.

W. Va., Charleston—Board of Education, W. O. Daum, Sec., Box 842, will erect 2-room addition to Washington School, fireproof corridors and stair towers and install steam heating plant; Warne, Tucker & Patteson, Archts., Charleston; bids opened. (Lately noted.)

W. Va., Fort Gay—Butler Dist. Board of Education, M. K. Bellamy, Sec., will receive bids until July 28 to erect school; 7 rooms; brick; plans and specifications at office Jno. R. Gieske, Archt., 218 First Natl. Bank Bldg., Huntington.

W. Va., Institute—State Board of Control, Jas. J. Lakin, Pres., Charleston, will receive bids until Sept. 28 to erect administration building at West Virginia Collegiate Institute; cost \$350,000; 3 stories; 288x76 ft. with ell 81x90 ft.; brick; limestone trim; composition roof; hardwood and terrazzo floors; 2 fireproof stair towers with metal doors and window frames and iron stairs; auditorium, 58 x 81 ft., to seat 830; library, 58 x 104 ft., 25 classrooms, 6 laboratories, 2 lecture rooms, 8 music rooms, etc.; plans and specifications at office Warne, Tucker & Patterson, Archts., Charleston. (Lately noted.)

W. Va., Tenmile—Board of Education, J. W. Johnson, Sec., Bristol, will erect school on Indian Run; bids opened July 18.

Stores

Ala., Cordova—Nelson Grocery Co. will erect brick building.

Ala., Montgomery—Bert Weil will erect brick business building.

Fla., Fort Pierce—C. F. Rawlerson will erect \$80,000 store and office building at Pine and Palmetto Sts.; 2 stories; reinforced concrete and tile; stucco trim; Kiehnel & Elliott, Archt., Fort Pierce. (Lately noted.)

Fla., Ocala—Judge W. S. Bullock will erect 3 one-story stores on Main St.; bids opened July 16; Geo. MacKay, Archt., Ocala.

Ga., Columbus—Stevens & Owens will erect store at 32nd St. and 2nd Ave.; cost \$12,125; 2 stories; brick.

Ky., Paducah—D. Harry Jamieson, of Langstaff-Orm Lumber Co., Paducah, is preparing plans for business building.

La., New Orleans—Maison Blanche Bldg. Co. will erect \$500,000 annex, Iberville and Dauphine Sts., for wholesale and service departments, warehouse, etc.; Emil Weil, Archt., Whitney Central Bldg., New Orleans, is revising plans. (Lately noted under Bank and Office.)

La., New Orleans—J. B. Levert will erect story store and boarding house at St. Charles Ave. and Clio St.; 3 stories; 27 x 120 ft.; hollow tile and stucco; wood floors; tile and composition roof; tile baths; bids opened July 21; Paul Andry, Archt., 840 Gravier St., New Orleans. (Lately noted.)

Md., Baltimore—W. G. Wrenn will erect building at 3614-16 Baltimore St.; cost \$30,000.

N. C., Charlotte—Chas. P. Moody will erect store on E. 4th St.; cost \$50,000; 72½x142 ft.; brick; Louis H. Asbury, Archt., Charlotte.

Okla., Oklahoma City—M. D. Morris will erect \$10,000 store at 816-18 W. Main St.

S. C., Chester—H. L. Schlosburg will erect

department store at Gadsden and Wylie Sts. S. C., Columbia—S. E. Powell will erect 5 buildings in 2500 block Divine St.; cost \$10,000.

Tenn., Memphis—Regan & Weller prepared plans for remodeling building at 56-58 S. Main St. for Shop of Culture; plate glass store front with copper trim and marble base, etc.

Tex., Cibolo—Albert Grobe will erect store; one-story; reinforced concrete and brick; Morris & Neenan, Archts.; Gunderman & Allen, Contrs., both San Antonio.

Tex., Dallas—Sam Kickerella will erect store on Columbia St.; cost \$14,000; brick.

Tex., Dallas—M. J. Shivers will erect stores at 1700-04 Colonial St.; cost \$12,000; 1 story; brick.

Tex., Dallas—J. K. Zimmerman will erect store and apartment building at 3404-6 Junius St.; cost \$45,000; 2 stories; brick.

Tex., West—West Development Co., W. R. Glasgow, Pres., will erect block of buildings to include 5 stores and postoffice building with Masonic lodge on 2nd floor; cost \$35,000; 4 one-story and one 2 stories; concrete floors; Roy E. Lowe, Archt., Waco. (Lately noted.)

Va., Richmond—DeLaney & Davis will erect 2 story brick store at 1549 E. Main St.

Va., Richmond—Dreyfus & Co. will reconstruct business building at 301-03 Broad St.; cost \$40,000; Carneal & Johnston, Archts., Richmond.

Va., Richmond—Jos. Hoffman will erect store and dwelling at Chestnut St. and 3rd Ave.; cost \$12,000; 2 stories; brick and concrete.

W. Va., Charleston—Geo. W. Claire will erect store and apartment building, 308-10 Elizabeth St.; cost \$11,000.

W. Va., Welch—M. Iafolla will erect 3-story brick building on McDowell St.; 40x46 feet.

Theatres

Ala., Selma—R. S. Wilby, Birmingham, will remodel Academy of Music.

Ala., Tuscaloosa—Merchants Bank & Trust Co. will erect \$100,000 building for theater to be leased by South Alabama Enterprises, Inc.; seating capacity 1000; reinforced concrete; concrete floors and foundation; D. O. Whilldin, Archt., Birmingham; A. Laycock & Son, contr. for foundation. (Lately noted.) Mo., St. Louis—St. Louis Realty Amuse-

ment Corp. will erect \$650,000 theatre with balcony and 3-story office building at 8th St. and Washington Ave.; steel, reinforced concrete and hollow fireproof tile; hardwood and cement floors; metal doors; ornamental terra cotta; wire glass; ventilators; mail chutes; Thos. W. Lamb, Archt., 644 8th Ave., New York. (Lately noted.)

N. C., Winston-Salem—R. J. Reynolds Realty Co., Geo. W. Orr, Pres., will erect \$70,000 theatre on Church St.; 54x150 ft.; steel, brick and tile; tar and gravel roof; wood and concrete floors; Webster modulation system of heat; seating capacity 1200; 2 floors for offices; H. Macklin, Archt., Winston-Salem. (Lately noted.)

Okla., Tulsa—W. M. Smith will complete 5-story theater and office building, 4th and Boston Sts.; cost \$300,000; first two floors for Orpheum Theater; remaining 3 floors for offices; concrete skeleton completed.

Warehouses

Fla., Miami—City, F. H. Wharton, Mgr., is receiving bids for 525-ft. warehouse at city docks to be occupied by Gulf & Southern Steamship Co.

Ky., La. Center—Dark Tobacco Growers' Co-operative Assn., Claude Cook, Chmn., Bldg. Comm., will erect warehouse; Manley & Young, Archts., Knoxville, will supervise construction.

La., New Orleans—Foster Manufacturing Co. will erect \$33,000 warehouse, Notre Dame St.

Tenn., Knoxville—Eastern Realty Co. will remodel brick warehouse building occupied by Wright-Cruze Hardware Co.; cost \$14,000.

Tenn., Nashville—H. E. Parmer Co., Deadrick St., plans to erect warehouse at 5th and Harrison Sts.; cost \$25,000.

Tex., Corsicana—Texas Transfer & Warehouse Co., Inc., Paul E. Allen, Pres., Box 754, will erect warehouse; 40x100 ft.; brick.

Tex., Dallas—City, Louis Blaylock, Mayor, plans to erect municipal warehouse for storage and distribution of supplies.

Tex., Fort Worth—Bert K. Smith will erect warehouse, Sixth and Pecan Sts.; cost \$22,500.

Va., Richmond—Atlantic & Pacific Co. will erect warehouse on Richmond, Fredericksburg & Potomac R. R., west of Lombardy St.; 3 stories and basement; concrete; bids opened July 16; Carneal & Johnston, Archts., Richmond.

BUILDING CONTRACTS AWARDED

Association and Fraternal

Tenn., Nashville—Scottish Rite Masons, D. R. Burns, Chmn., Bldg. Comm., will erect \$850,000 Temple; 4 stories; 115 x 158 ft.; steel, stone and concrete; tile and reinforced concrete floors; concrete and stone foundations; asphalt built-up roof; hollow fireproof and interior tile; metal doors; steel sash and trim; Asmus & Clark, Archts., Nashville; Hugger Bros. Construction Co., Montgomery, Ala., contr. on cost plus basis; International Steel & Iron Co., Evansville, Ind., steel; D. Y. Johnson Stone Co., Nashville, stone; heating, lighting and plumbing not let. (Lately noted.)

Bank and Office

Fla., Jacksonville—Palmer & Palmer Corp., T. W. Palmer, Pres., will erect \$20,000 two-story office building, 315 W. Forsyth St.; 44x80 ft.; brick; stone trim; running water in all rooms; 2 offices on first floor, 9 above; Marsh & Saxelbye, Archts.;

W. D. Gerbrich & Co., Contrs.; both Jacksonville.

La., Ruston—Ruston State Bank will erect concrete and stone bank building; 32x90 ft.; 1 story; concrete and tile floors; concrete foundation; composition roof; steam heat; conduit system electric wiring; Wm. Drago and L. Milton King, Archts., Monroe, Clinton Davis, Contr., Ruston.

Tex., Houston—Dixie Heating & Ventilating Co. has contract at \$38,000 for heating and ventilating work for Second National Bank building nearing completion.

Tex., Powell—Powell State Bank, J. O. Burke, Pres., let contract to erect \$20,000 brick building; 3 compartments, bank to occupy one section and other two for leasing.

Churches

Ark., Newark—Methodist Church will erect \$16,000 brick building; wood floors; composition roof; warm moist air heat; John P. Almand, Archt., Little Rock; C. M. Edwards, Contr., Newark. (Lately noted.)

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Okl., Oklahoma City—Reinhart & Donovan have contract to erect \$98,000 building at 1120 W. 32nd St. for Catholic Church.

Tenn., Chattanooga—Highland Park M. E. Church, South, J. F. Holbert, Chmn., Bldg. Comm., will erect \$45,000 Sunday school addition adjoining present structure, Union and Beech Sts.; 2 stories and basement; 50 x 100 ft.; brick; tile roof; social room to seat 500 to 600, kitchen, etc., in basement; R. H. Hunt, Archt., James Bldg.; T. S. Moudy & Co., Contrs.; both Chattanooga. (Lately noted.)

Tex., San Antonio — First Presbyterian Church will erect \$160,000 young people's building, 402 Avenue D; 3 stories and roof garden with stage; 59x167 ft.; concrete foundation; hardwood and concrete floors; tile roof over concrete; hollow fireproof and interior tile; metal doors; ventilators; rolling partitions; steel sash and trim; wire glass; Paul G. Silber & Co., Archts., 331 Bedell Bldg.; McKenzie Construction Co., Contr., 605 Bedell Bldg.; A. H. Shafer, steam heating; Martin Wright Electric Co., electrical work; Kirkwood & Wharton, plumbing; Walsh Sheet Metal Works, exhaust and ventilating plant; all San Antonio; Moncrief Furnace & Mfg. Co., Dallas, forced air heating plant. (Lately noted.)

City and County

N. C., Kenansville—Jail—Duplin County, W. F. Murphy, Chmn., County Commrs., Wallace, will erect \$30,000 jail; reinforced concrete and steel; tar and gravel roof; concrete and hardwood floors; hollow fireproof tile; steel sash and trim; Benton & Benton, Archts.; Gaskill Construction Co., Contr.; both Wilson; Manly Jail Works, Dalton, Ga., cellwork; heating not let. (Lately noted.)

Dwellings

Ark., Arkadelphia—Mrs. P. H. Williams will erect residence, 8th and Hickory Sts.; 6 rooms, bath and sleeping porch; Jesse Rogers, Contr., Arkadelphia.

Fla., Clearwater—Chas. H. Ebbets, Pres., Brooklyn Nat. League Baseball Team, Bedford Ave. and Sullivan Sts., Brooklyn, N. Y., is erecting \$40,000 residence; Lester Avery, Archt., Clearwater; contract let. (Lately noted.)

Fla., Miami Beach—Edw. N. Hurley will erect \$35,000 residence, Nautilus subdivision; Hunt Bros., Contrs., Miami Beach.

Fla., Miami Beach—Miami Atlantic Holding Co., Miami, Frank Smathers, Pres., will erect 6 Spanish type dwellings in Nautilus subdivision; 2 stories; cement block and stucco; wood floors; concrete foundations; Spanish tile roofs; total cost \$60,000; W. C. DeGarmo and C. E. Paist, Archts.; Hunt Bros. Co., Contrs., 175 W. Flagler St.; Bell & Bell, plumbing; all Miami. (Lately noted.)

Fla., St. Petersburg—H. V. Walden, 125 Thirteenth St., has contract to erect \$12,000 building; brick and hollow tile; 30x55 ft.; 3 stories; tile roof; concrete foundation; pipeless furnace heat; 3 baths; laundry and garage.

La., New Orleans—Security Bldg. & Loan Assn. will erect 2 dwellings, Alexander and Baudin Sts.; total cost \$12,000; Schillinger Bldg. Co., Inc., Contr.; also \$15,700 bungalow, Napoleon Ave. and Jena St.; Jos. J. Lagarde, Contr.; both New Orleans.

La., New Orleans—J. Y. Baquie will erect \$7000 dwelling, State and Delord Sts., and one at Delord and Winow Sts.; Denis & Handy, Contrs., New Orleans.

La., New Orleans—Henry Hausmann will erect \$17,500 residence, Broadway and Panola Sts.; frame and stucco; 2 stories and base-

ment; tile roof; Nathan Kohlman, Archt., Godchaux Bldg.; W. A. Reed, Contr.; both New Orleans.

La., New Orleans—Jos. A. Masera will erect \$16,500 residence, Broadway and Panola Sts.; 2 stories and basement; frame and stucco; tile roof; Nathan Kohlman, Archt., Godchaux Bldg.; W. A. Reed, Contr.; both New Orleans.

La., New Orleans—E. C. Sprotts will erect \$11,000 residence, Audubon and Sycamore Sts.; Denis & Handy, Contrs., New Orleans.

Md., Baltimore—Allen W. Mason, 25 E. Baltimore St., will erect \$30,000 residence and garage, Gittings Ave., east of Charles St.; 2 stories; frame; 40x85 ft.; hardwood floors; stone foundations; slate roof; Smith & May, Archts., Equitable Bldg.; J. Henry Smith, Contr., 300 E. 33rd St.; both Baltimore. (Lately noted.)

N. C., Gastonia—A. K. Winget will erect 4 bungalows; total cost \$12,000; J. Mack Jenkins, Contr., Gastonia.

N. C., Wadesboro—Wade Manufacturing Co., T. C. Cox, Pres., will erect 150 operatives' dwellings; cost \$200,000; bungalow type; 3, 4, 5 and 6 rooms and shower bath; Robert & Co., Archts.-Engrs., Atlanta; T. C. Thompson & Bros., Contrs., Charlotte; future plans call for church, community house and Y. M. C. A.

S. C., Chester—T. L. Eberhardt will erect 3 bungalows; Palmetto Contracting Co., Contr., Chester.

Tenn., Memphis—M. O. Stanley will erect 2-story brick veneer residence and garage, 1767 York St.; cost about \$8000; heating \$1000; garage \$1000; Ben Bullard, Contr., Memphis.

Tex., Breckenridge—G. P. Jones will erect \$15,000 one-story brick residence; 8 rooms; C. E. Praeger, Archt.; J. W. Lacy, Contr.; both Breckenridge.

Tex., Dallas—Dallas Development Co. will erect \$10,400 dwelling; Albert H. Borett Construction Co., Contr., 201 Central Bank Bldg., Dallas.

Tex., Fort Worth—John R. Church will erect \$30,000 residence; Jos. R. Pellich, Archt.; A. J. Howard, Contr.; both Fort Worth.

Government and State

Ala., Anniston—Post Office and Courthouse—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will erect extension to building and driveway at post office and courthouse; Algernon Blair, Montgomery, Contr., at \$17,971. (Lately noted.)

Ala., Huntsville—Custom House and Post Office—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will erect extension to and remodel custom house and post office; 1-story; red brick and terra cotta; 52x27 ft.; yellow pine floors; composition roof; 3 skylights; wire glass; driveway, concrete paving and curb; Garber & Cissell, Inc., Bethlehem, Pa., contr. at \$16,750. (Lately noted.)

Mo., Columbia—Post Office—Treasury Department, Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will erect extension to building and driveway at post office; Griffiths Construction Co., St. Louis, Contr. at \$15,750. (Lately noted.)

Va., Leesburg—Post Office—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C., will erect post office; Algernon Blair, Montgomery, Ala., contr. at \$34,261. (Lately noted.)

Government and State

W. Va., Charleston—Armory—West Virginia Land & Improvement Co. will erect \$60,000 armory and office building for National Guard, State and Goshorn Sts.; armory, 100 x 100 ft.; office wing, 36 x 100 ft.; steel trusses, columns and beams; brick walls; terra cotta partitions; reinforced concrete footings; concrete and composition built-up roofs; concrete and hardwood floors; hollow fireproof tile; steel sash and trim; Herbert S. Kyle, Archt., 502 Union Trust Bldg.; W. A. Abbitt, Contr.; P. A. Donavin, conduit system electrical work; all Charleston; will not install heating plant at present. (Lately noted.)

Hospitals, Sanitariums, Etc.

N. C., Raleigh—State Hospital, Dix Hill, Dr. Albert Anderson, Supt., will erect new cook rooms, dining rooms and dormitories at each of Oaks, Male Epileptic and Female Epileptic Colonies, porch construction to male wards and central heating plant; semi-fireproof; wood and tile floors; asbestos shingle roof; total cost about \$300,000; H. A. Underwood, Engr., J. E. Beaman, Contr.; Thompson Electrical Co., underground wiring at about \$17,000; all Raleigh; W. W. Dick, Greensboro, contr. for central heating plant at about \$40,000. (Lately noted.)

S. C., Columbia—South Carolina State Hospital, R. B. Scarborough, Chmn., Board of Regents, will erect Ward No. 2; fireproof; cost \$150,000; 100 x 225 ft.; reinforced concrete floors; 3 stories; brick; Barrett roof; hollow fireproof and interior tile; metal doors; steel sash and trim; Lafaye & Lafaye, Archts., 1002 Loan & Exchange Bank Bldg.; Caughman Construction Co., Contr.; W. B. Guimarin & Co., plumbing; A. W. Holler Co., heating; all Columbia. (Lately noted.)

Hotels and Apartments

Ga., Augusta—Bon Air Vanderbilt Corp., W. H. Marshall, Pres., Vanderbilt Hotel, New York, will erect \$300,000 addition to Bon Air Vanderbilt Hotel; 7 stories; 45x200 ft.; 105 rooms with bath; reinforced concrete; hollow fireproof and interior tile; metal ceilings; metal doors; Barrett roof; cement floors; ventilators; Willis Irvin, Archt., Augusta; Spiker & Lose, Engrs., Atlanta; Foundation Co., Contr., Hurt Bldg., Atlanta; T. G. Brittingham Co., Augusta, heating and plumbing; J. A. Young, Augusta, wiring. (Lately noted.)

La., New Orleans—Joe Traverse will erect apartment building on Esplanade Ave. near Broad St.; cost \$11,734; Git Manufacturing Co., Contr.

N. C., Charlotte—McDaniel Federal Co., Charlotte, has contract for tile floors and wainscoting in 246 bathrooms for Citizens Hotel under construction.

Tex., El Paso—Dr. G. N. Thomas, Mill Bldg., will erect \$37,000 apartment house; 70x80 ft.; 2 stories; brick and hollow fireproof tile; metal tile roof; wood floors; concrete and cut stone foundation; 10 suites of 3 and 5 rooms; private garage for each apartment; sleeping and service porches; Geo. C. Burnett, Archt., Herald Bldg.; Anderson Construction Co., Contr., Orndoff Hotel; Elliott Engineering Co., Feders Bldg., Dunham vacuum heating system; W. B. Glarden, 317 Mills St., wiring; all El Paso. (Lately noted.)

Miscellaneous

Ala., Dothan—Clubhouse—Dothan Country Club will erect \$20,000 building; Miller Bros., Contrs., Dothan.

La., Lafayette — Orphanage—St. Mary's Orphanage will erect group of buildings;

first unit to cost \$106,000 and consists of 3 building; 2 stories and basement; brick and concrete; tile roof; cast cement; interior tile; concrete floors; Emil Weil and Albert Bendernagle, Archts., New Orleans; Eugene Guillot, Contr., Lafayette. (Lately noted.)

Mo., St. Joseph—Funeral Home—Meierhoffer Undertaking Co. will erect building at 13th and Faraon Sts.; cost \$70,000; Eugene Neier, Archt.; Lehr Construction Co., Contr., both St. Joseph.

Va., Danville—Funeral Home—F. W. Townes & Son will erect building on Main St.; cost \$40,000; 3 stories; brick and concrete; hardwood and concrete floors; interior tile; cement foundation; composition roof; Heard & Chesterman, Archts.; L. B. Flora & Son, Contrs., Main St.; both Danville. (Lately noted.)

Schools

Ala., Minter—Carlowville Consolidated School Board, G. L. Youngblood, Secy., will erect \$20,000 brick building; W. E. Ward, Contr., Pine Apple. (See Machinery Wanted—Building Material).

Ala., Scottsboro—Jackson County School Board will erect addition and remodel high school; W. P. O'Neal, Contr.

Ala., Straughn—County Board of Education, Andalusia, will erect 2 schools; one 3 rooms; frame; cost \$3000; other 7 classrooms and auditorium; brick; \$12,000; W. L. Frazier, Contr., Andalusia.

Ark., Waldo—Waldo Special School Dist. Trustees will erect building; cost \$44,000; 2 stories; 12 rooms; wood floors; tile roof; concrete foundation; Jno. P. Almand, Archt.; Little Rock; C. C. Fincher, Contr., Waldo.

Fla., Gainesville—Board of Control, P. K. Yonge, Chmn., Aragon Hotel, Jacksonville, rejected bids to complete auditorium at University of Florida; let contract at \$11,347 to W. A. Manning & Sons for heating auditorium; also let contract at \$7865 to F. B. Martingale, Jacksonville, for replacing roof on building at Florida State College for Women, Tallahassee. (Lately noted.)

Fla., Hialeah—Dade County Board of Public Instruction, Miami, will erect school; cost \$27,259; 6 rooms; W. C. DeGarmo, Archt.; J. Bettridge, Contr.; both Miami. (Lately noted.)

Fla., Jacksonville—Jacksonville Special School Dist. will erect building, cost \$25,000; Wittenberg, Delony & Watts, Archts., Little Rock; Carmean Bros., Contrs., Little Rock.

Fla., Miami Beach—School Board will erect 3 room addition and repair building; cost \$15,204; H. Geo. Fink, Archt., Miami; Alvah L. Sammons, Contr., Miami Beach. (Lately noted.)

La., Baton Rouge—Louisiana State University Bldg. Comm., R. L. Himes, Sec., will erect Hill Memorial Library at Greater Agricultural College; cost \$247,913; 2 stories and basement; 200x135 ft.; auditorium to seat 4000; Theo. C. Link, Archt., Fourth floor, Capitol Bldg.; J. V. & R. T. Burkes, Contrs.; both Baton Rouge. (Lately noted.)

Md., Aberdeen—Harford County Board of Education will erect \$35,000 school; 69.8 x 55.6 ft.; 8 rooms; brick and hollow tile with wood joists and steel windows; composition roof; wood floors; electric lights; hot air heat; Hamme & Witman, Archts., City Bank Bldg., York, Pa.; Gilbert & Viele, Contrs., Aberdeen. (Lately noted.)

Miss., Mooresville—Lee County Board of Education, Tupelo, will erect \$10,000 school; Sam Carroll and Joe Angle, Contrs., Tupelo.

Mo., King City—Board of Education, M. L. Copeland, Pres., will erect \$55,000 school;

1 and 2 stories; 94x143 ft.; semi fireproof; built-up roof; yellow pine and concrete floors; steam heat; electric lights; E. Gray Powell, Archt.; Chas. P. Norris, Contr.; Western Heating & Plumbing Co., plumbing; all St. Joseph, Mo. (Lately noted.)

Mo., Neosho—School Board will remodel Central School; Liebhart & Hammers, Contrs., Neosho.

Mo., Princeton—Board of Education will erect \$56,000 school; 3 stories; 71 x 105 ft.; reinforced concrete and brick; concrete foundation; wood and concrete floors; R. H. Sanneman, Archt., Lee Bldg., Kansas City; Glen Shipley, Contr., Princeton; Geo. Foley, Kansas City, steam heat, \$5000. (Lately noted.)

N. C., Charlotte—Mecklenburg County Board of Education, J. M. Matthews, Supt., will erect \$20,500 addition to school at Hoskins; 4 rooms; Torrence & Todd, Contrs.; Chas. W. Christian, heating; McGinn Electric wiring; all Charlotte. (Lately noted.)

N. C., Granite Falls—School Board will erect 6-room addition to graded and high school; Elliott Building Co., Contr., Hickory.

N. C., Hickory—City, Jno. W. Ballew, Mgr., will erect teacherage; 2 stories and basement; 19 rooms, 2 recreation rooms, sewing room, dining room, laundry, kitchen, etc.; brick veneer and rough texture brick; C. Gadsden Sayre, Archt., Anderson, S. C.; J. H. Bolick, contr. at \$23,533; J. G. Shufford, heating and plumbing at \$5599; Haly Electric Co., wiring; all Hickory. (Lately noted.)

Okla., Colbert—School Board, J. N. Nation, Clk., will erect addition and repair building; cost \$16,978; 72x80 ft.; hardwood floors; art stone; steam heat; electric lights; Jno. Tulloch, Archt., Sherman, Tex.; Geo. B. Gibson, Contr., Muskogee, Okla.; J. C. Koriolth Plumbing Co., Sherman, heating; Chris. Waltz, Denison, Tex., wiring. (Lately noted.)

Okla., Norman—University of Oklahoma, B. S. Graham, Sec., Board of Governors, will erect students building and Y. M. C. A.; cost \$350,000; 80x200 ft.; fireproof; brick, stone and reinforced concrete; tar and gravel roof; hardwood, cement, marble and terrazzo floors; hollow fireproof tile; ornamental terra cotta; interior tile; metal doors; Thos. L. Sorey & Walter T. Vahlberg, Archts., steel sash and trim; wire glass; rolling partitions; mail chutes; vaults; ventilators; 212½ W. First St., Oklahoma City; preliminary sketches ready about Aug. 1. (Lately noted.)

Tenn., Nashville—Ward-Belmont College for Women will erect 5 clubhouses; total cost \$35,000; stucco and tile; Foster-Creighton Construction Co., Contr., Nashville. (Lately noted.)

Tex., Idalou—School Board will erect high school; \$21,600; Spanish style; brick; Peters & Haynes, Archts., Lubbock; I. M. Bales, Contr., Idalou. (Lately noted.)

Tex., Lubbock—Lubbock Independent School Dist. Trustees will erect ward school; cost \$48,625; J. B. Maxel, Contr., Plainview; Roche, Newton & Co., heating and plumbing, \$10,575; will also remodel high school; cost \$10,000; L. E. Harrison, Contr., Plainview. (Lately noted.)

Tex., Mexia—Board of Education, Dist. No. 37, will erect school; cost \$21,790; C. C. Leinbach, Archt., Dallas; R. L. Hastings, Contr.

Tex., Mathis—School Board will erect \$12,000 building; 44 x 52 ft.; brick and tile; shingle roof; wood floors; W. C. Stephenson, Archt., Beeville; Chas. F. Newman, Contr., Kennedy. (Lately noted.)

Tex., San Antonio—Weslyan Institute will erect \$50,000 building in West End; semi-fireproof; Phelps & DeWees, Archts.; C. J. Gates, Contr.

Va., Lynchburg—Campbell County School Board will erect 4-room addition to Fairview Heights School; cost \$12,720; frame; slate roof; rift pine floors; remodel heating plant; Heard & Chesterman, Archts., 1004 Peoples' Natl. Bank, Bank Bldg.; W. K. Barger, Contr.; both Lynchburg. (Lately noted.)

Stores

Ark., Fayetteville—H. M. Hudgins will erect 3 buildings to replace structures burned at loss of \$25,000; brick with steel supports and metal roofs; contract let.

Ark., Little Rock—Gus Blass Dry Goods Co. will construct basement under store; cost \$20,000; 140x75 ft.; Alton Burden, Contr., Little Rock.

Ark., Little Rock—Dr. W. S. May will erect \$25,000 business building; 2 stories; 50x140 ft.; built up roof; wood floors; Otis hand power lift; Jno. P. Almand, Archt.; Stewart McGehee Construction Co., Contr.; both Little Rock.

Fla., Bradentown—United Markets, Inc., H. Rosenblatt, Mgr., will remodel building on W. Manatee Ave.; Samuel Pritchard, Contr., Tampa.

Fla., Bradentown—J. R. Mickler, Tampa, will erect building on Pine St.; cost \$10,000; 1 story; 42x78 ft.; brick; hollow tile and stucco; Samuel Pritchard, Contr., Tampa. (Previously noted.)

Fla., Tampa—Bentley-Gray Dry Goods Co., Frank Bentley, Sr., Pres. will erect building at Pierce and Zack Sts.; cost \$150,000; 4 stories and basement; 105x105 ft. and additional story at rear, 40x105 ft.; fireproof; reinforced concrete; freight and passenger elevators; Logan Bros., Contrs., Tampa. (Previously noted.)

Fla., Tampa—Mrs. Josefina Ysern will erect \$15,000 building at 14th St. and 7th Ave.; 1 story; brick; Robert Mugge Construction Co., Contr., Tampa.

Fla., Tavares—Tavares Building Assn., Inc., will erect \$20,000 store and apartment building; 2 stories; 72x64 ft.; metal ceilings; interior tile; concrete and hardwood floors; concrete foundation; built-up asphalt roof; Alan J. MacDonough, Archt., Eustis; C. Z. Osborne, Contr., Umatilla; H. N. Urquhart, Eustis, plumbing.

Ga., Columbus—Deaton Grocery Co. will erect building at Thirty-second St. and Second Ave.; cost \$12,125; 2 stories; brick; 56 x 70 ft.; 2 stores on ground floor; Henry Stovall, Contr.

Ga., Macon—C. A. Rusin will remodel building at 412 Second St.; Gothic type; install plate glass front; brick; R. H. Smalling's Sons, Contrs., Macon.

La., New Orleans—Mrs. Jno. Benedict, Jr., 2032 Magazine St., will erect store at Home-dale and Taylor Sts.; cost \$10,000; A. C. Williamson Co., Contr., New Orleans.

La., New Orleans—A. Falk & Sons, Char-tres and Conti Sts., will remodel building at Decatur and Bienville Sts.; cost \$11,000; W. A. Reed, Contr., New Orleans.

La., Monroe—Dr. F. E. Wright will erect \$25,000 store; 2 stories; 30x120 ft.; ordinary construction; wood joists; composition roof; cement and wood floors; metal ceilings; steel sash and trim; wire glass; Wm. Drago & L. Milton King, Archts., Monroe. Address J. V. Wev, Contr., Monroe. (Lately noted.)

La., Shreveport—Dixie Heating & Ventilating Co., Houston, have contract at \$62,774 for plumbing and heating for Denis Ricou for which Standard Construction Co., Houston, was lately noted as low bidder.

Mo., Cape Girardeau—Goddard Grocer Co., St. Louis, (E. L. Miller, Local Rep.) will

erect \$21,000 branch store; 1 story; 75x150 ft.; brick; contract let.

S. C., Greenville—Jordan Building Co., Greenville, has contract at \$13,500 to remodel building; 50 x 150 ft.; brick veneer; wood floors; concrete or brick foundation; F. H. & J. G. Cunningham, Archts., Greenville.

Tenn., Knoxville—Swepson Estate (W. E. Mynderse, Agt.) will erect \$32,000 building at State St. and Vine Ave.; 2 stories and basement; 51x104 ft.; brick and stucco; Carey 4-ply roof; wood and concrete floors; reinforced concrete foundation; metal ceilings and doors; steel sash and trim; wire glass; J. C. Valldie, Archt.; A. R. McCurry, Contr.; Engert-Long Plumbing Co., heating and plumbing; Knoxville Electric Co., wiring; all Knoxville; Warner Elevator Co., 6x7 ft. freight electric elevator. (Lately noted.)

Tenn., Memphis—I. D. Block and Leo

Goodman will remodel building on Second St.; cost \$25,000; brick, stone and terra cotta; iron beams; Mahan & Broadwell, Archts.; V. V. Rittelmeyer, Contr.; both Memphis.

Tenn., Memphis—Brinkley Snowden will remodel building at 66-70 S. Main; cost \$18,000; Sample & Logan, Contrs., Memphis.

Tex., Dallas—P. P. Martinez will erect \$20,000 business building on Canton St.; 2 stories; brick; H. A. Overbeck, Archt., Melba Theater Bldg.; Rogers & O'Rourke, Contrs., 1124 Kirby Bldg.; both Dallas. (Lately noted.)

Tex., Dallas—W. C. Young will erect \$50,000 building; hollow tile; A. J. Klein, Contr., 422 N. Walton St., Dallas.

Theatres

Fla., Bartow—Hugh W. Ware will erect theatre and office; 75 x 100 ft.; 2 stories; Johns-Manville roof; tile and concrete floors; concrete foundation; hollow fireproof tile; metal ceilings; W. B. Talley, Archt., Lakeland; W. C. Robertson & Co., Contrs., Bartow. (Lately noted.)

Fla., Orlando—J. W. Phillips & Son will erect \$90,000 theater; 6 stories; 78x100 ft.; reinforced concrete; composition roof; tile and concrete floors; L. C. Townsend & Co., Archts.-Contr.; A. P. Curry Electric Co., wiring; Chas. Stuckie, plumbing; all Orlando; Otis elevator.

Warehouses

Tenn., Paris—Jno. T. Currier Cotton Co. will erect warehouse at Rison St. and N. C. & St. L. Railway; 1½ stories; 90 x 100 ft.; brick; Z. W. Vaughn, Contr., Paris.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Asphalt Distributor.—D. C. Elphinstone (Mchy. Dealers) 408 Continental Bldg., Baltimore, Md.—One Kinney heavy asphalt distributor, state location, price for resale and full specifications.

Asphalt Paving Plant.—O. E. Worman, 252 Hennepin Ave., Minneapolis, Minn.—To rent or purchase one 1200 to 2000 yd. asphalt paving plant.

Basket Making Machinery.—Ridgewood Fruit Growers, Winchester, Va.—To correspond with manufacturers of wood stave bushel basket machinery.

Beds (In-A-Door).—Estes W. Mann, Memphis, Tenn.—In-A-Door beds for 12-suite apartment house.

Blowers.—R. B. Laing, 544 Kennedy Bldg., Pres. No-Oyle Bearing Co., Tulsa, Okla.—Blowers.

Boiler.—The Robert Mugge Co., Tampa, Fla.—One 20 to 30 h.p. boiler.

Boilers.—Caswell Training School, Dr. C. Banks McNairy, Supt., Kinston, N. C. See Laundry Equipment.

Boilers.—R. P. Johnson (Mchy. Dealers) Wytheville, Va.—One 100 h. p. return tubular boiler, standard riveted for 100 lbs. either full or half front; one 80 h. p. and one 50 h. p. high pressure locomotive boiler; one 4 h. p. standard vertical boiler; second-hand equipment preferred.

Bridge.—City of Daytona, Fla.—Details under Construction News—Bridges, Culverts and Viaducts.

Bridge.—Town of Tuscaloosa, Ala.—Details under Construction News—Bridges, Culverts and Viaducts.

Bridge.—City of Columbus, N. C. Details under Construction News—Bridges, Culverts, Viaducts, etc.

Bridge.—Town of Suffolk, Va.—Details under Construction News—Bridges, Culverts and Viaducts.

Bridge.—City of Port Gibson, Miss.—Details under Construction News—Road and Street Construction.

Broom Machinery.—A. G. Stone, Cushing, Okla.—Broom making machinery.

Building Material.—W. E. Ward, Pine Apple, Ala.—Building material for \$20,000 school at Minter, Ala.

Cable (Electric).—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids until July 24 to deliver electric cable to navy yard.

Canals.—Board of Drainage Commrs., Senatobia, Miss.—Details under Construction News—Drainage and Irrigation.

Cars (Dump).—D. C. Elphinstone (Mchy. Dealers) 408 Continental Bldg., Baltimore, Md.—Twenty 36-in. gauge, 4 yd. dump cars; ten 8-10 or 16-ton standard gauge dump cars.

Concrete Drains.—City of Norfolk, Va., Walter H. Taylor, 3rd, Director of Public Works. Receives bids until July 25 to furnish material, appliances and labor to construct reinforced monolithic, concrete drains in Cruiser Place and Greenway Court; approximately 1750 lin. ft. of 5 x 8 ft. section; 280 lin. ft. of 5 x 10 ft. section; and 450 lin. ft. of 4 x 6 ft. section.

Conveyors.—See Elevators.

Crane (Traveling).—W. M. Dean, Columbia, Tenn.—Overhead hand traveling crane.

Cranes.—Wilson Cypress Co., Palatka, Fla.—Two overhead chain driven cranes, 22 to 34 ft. span, 10 to 15 ton capacity.

Cranes, etc.—R. B. Laing, Pres., No-Oyle Bearing Co., Tulsa, Okla.—Cranes, etc.

Creamery Equipment.—H. L. Ramsey, Propr., White House Mill and Farm, Atmore, Ala.—To purchase freezer, churn, ripener, tester and refrigeration outfit for small creamery and ice cream plant.

Crushers (Gyratory).—Duncan Machinery (Mchy. Dealers) Box 265, Knoxville, Tenn.—Jobbers prices on No. 5 or No. 6 Gates or similar style gyratory crusher, second-hand; state condition, location and complete description.

Digestors.—Hercules Powder Co., Wilmington, Del.—To purchase digestors about 8 ft. in diam., and 30 ft. high, good for 100 lbs. pressure; consider used ones if in good condition.

Dredging.—U. S. Engineer Office, Baltimore, Md.—Bids until Aug. 13 for dredging in Baltimore harbor and channels, Md.

Drill Press.—Wolf Bros. Auto Co., Garden Plain, Kan.—To purchase metal power drill press.

Electric Motors.—R. B. Laing, 544 Kennedy Bldg., Pres., No-Oyle Bearing Co., Tulsa, Okla.—Electric Motors.

Elevated Tank and Tower (Steel).—See Waterworks Equipment.

Elevators.—Myron W. Bradbyer, 1101 So. Elgin, Tulsa, Okla.—Elevators and conveyors for handling sand, gravel and cement.

Engine (Hoisting).—The Robert Mugge Co., Tampa, Fla.—Lidgerwood hoisting engine.

Engines.—Caswell Training School, Dr. C. Banks McNairy, Supt., Kinston, N. C. See Laundry Equipment.

Excelsior Machines.—Peterman Excelsior

Co., Peterman, Ala.—To purchase several Johnson excelsior machines, second-hand preferred.

Foundry Supplies and Equipment.—Orchard Fire Pot Foundry Co., Banks L. Miller, Mgr., San Juan, Tex.—Foundry supplies and equipment.

Gang Saws.—R. B. Laing, Pres., No-Oyle Bearing Co., Tulsa, Okla.—Gang Saws.

Garage and Machine Shop Equipment.—E. Stead, Propr., Stead's Auto & Machine Service, Kingman, Kan.—Garage equipment including automobile cylinder grinder, power metal lathe and power drill press.

Garage and Machine Shop Equipment.—Wallace Garage, Roy R. Wallace, Propr., Kingman, Kan.—Garage equipment including burning in machine, emery stand and wheel.

Generators.—Caswell Training School, Dr. C. Banks McNairy, Supt., Kinston, N. C. See Laundry Equipment.

Glass Containers.—Mrs. W. F. Flake, Inc., Winston-Salem, N. C.—To purchase 6, 8 and 14 oz. glass containers with metal screw tops.

Grinder (Automobile Cylinder).—A. D. Raye Motor Co., Ralph Markle, Purchasing Agt., Kingman, Kan.—Automobile cylinder grinder.

Hammer (Steam).—The Robert Mugge Co., Tampa, Fla.—One 8000 lb. steam hammer.

Heating Plant.—Board of Education, School Dist. No. 21, C. W. Burbank, Clk., Purdineville, Okla.—Bids until July 17 for heating school building.

Heating System.—J. S. Wilson, Engr., Bailey, N. C.—In market for oil burning heating system.

Hoist (Chain).—W. D. Wood Lumber Co., Box 231, Birmingham, Ala.—5 or 6 ton electrically driven chain hoist, 3 phase, 60 cycle, 220 volt; second-hand.

Hoisting Equipment.—Chas. T. Lehman, (Machinery Dealers) 2300 Avenue A, Birmingham, Ala.—One pair 23 x 42 or 24 x 48 double band friction drums independently operated, drums to hold four to six thousand ft. 1" rope.

Incinerator.—City of Jefferson City, Mo., C. W. Thomas, Mayor—Correspondence with manufacturers of incinerator plants.

Iron (Galvanized).—Orchard Fire Pot Foundry Co., Banks L. Miller, Mgr., San Juan, Tex.—Several cars of flat sheet galvanized iron.

Laundry Equipment.—Caswell Training School, Dr. C. Banks McNairy, Supt., Kinston, N. C.—Bids until July 31 for installa-

tion of boilers, engines, generators and switchboard; plans and specifications at office H. A. Underwood, Engr., 916 Commercial Bank Bldg., Raleigh.

Locomotive.—Stevens Bros. & Co., Forsyth Bldg., Atlanta, Ga.—30 to 40 ton locomotive, saddle tank preferred.

Locomotives.—D. C. Elphinstone (Mchy. Dealers) 408 Continental Bldg., Baltimore, Md.—One 22/25 ton standard gauge, saddle tank Vulcan locomotive.

Lumber.—Bureau of Supplies & Accounts, Navy Dept., Washington, D. C.—Bids until July 17 to deliver lumber to Navy Yard.

Material Handling Equipment.—See Elevators, also conveyors.

Melting Kettles.—R. B. Laing, Pres., No-Oyle Bearing Co., 544 Kennedy Bldg., Tulsa, Okla.—Melting kettles.

Miscellaneous Supplies.—Marine Corps, Quartermaster Dept., Washington, D. C.—Bids until July 25 to furnish three automatic manfolding registers; 90 bales of excelsior; one tire bender; 10 lbs. of copper rivets and burrs; 2 petlock shears; 6000 lbs. sweeping compound; 500 bottles furniture polish; 50 rolls steel wire netting; 700 spark plugs; 96 gals. sulphuric acid, etc.; delivery Quantico, Va.; Sch. 38-1924.

Miscellaneous Supplies.—Panama Canal, A. L. Flint, General Purchasing Officer, Washington, D. C.—Bids until Aug. 1 to furnish iron or steel rope, phosphor-bronze wire, electroflater, electric sockets, and switches, insulator valves, bolts, homger, kitchen equipment, flax packing, varnish brushes, paint, soldering paste, pencils and lumber. Blank forms and information (Circular 2329) on application to offices of Panama Canal; Asst. Purchasing Agents Fort Mason, San Francisco, Cal.

Nail Machines.—John G. Palmer, Gen. Mgr., Florida Steel & Wire Co., corner E. Beaver and Van Buren Sts., Jacksonville, Fla.—To purchase immediately, nail machines.

Painting, etc.—Board of Awards, Mayor Howard W. Jackson, Pres., Baltimore, Md.—Bids in duplicate until July 25 for interior painting and other alterations of rooms, Nos. 306 and 306; also for rooms, Nos. 305, 307 and 309; drawings and specifications at office J. F. Crowther, Inspector of Bldgs., City Hall.

Paving.—Town of Rustan, La.—Details under Construction News—Road and Street Construction.

Paving.—Town of Henderson, Ky.—Details under Construction News—Road and Street Construction.

Paving.—City of Ozark, Ala.—Details under Construction News—Road and Street Construction.

Paving.—City of Selma, Ala.—Details under Construction News—Road and Street Construction.

Paving.—City of Baltimore, Md.—Details under Construction News—Road and Street Construction.

Paving.—City of Baton Rouge, La.—Details under Construction News—Road and Street Construction.

Pipe (Wrought and Cast Iron).—Details under Water Works.

Pipe and Fittings.—Marine Corps, Quartermaster Dept., Washington, D. C.—Bids until July 16 to furnish 3100 ft. of steel pipe, two 3-in. pipe collars, 16 gate valves, sixteen 3-in. tees, 24 elbows, 8 plugs, 24 nipples; delivery Naval Operating Base (Sewell's Point) Hampton Roads, Va.; Sch. 39.

Pipe Machine.—Universal Pipe Machine Co., 128 Monroe Ave., Memphis, Tenn.—Correspondence with machinery builders.

Plumbing.—Board of Education, School Dist. No. 21, C. W. Burbank, Clk., Purdinville, Okla.—Bids until July 17 for plumbing in school building.

Pulverizer.—Duncan Machinery Co. (Mchy. Dealers) Box 265, Knoxville, Tenn.—Jobbers prices on second-hand pulverizer, capacity 8 to 10 tons of limestone per hr.; receiving the stone 2½ to 3-in. and discharging it from ¾-in. and finer; state condition and complete description.

Pulverizer (Swing Hammer).—Box 1233, Joliet, Ill.—Medium size swing hammer pulverizer; either Williams, Jeffery, etc.

Pump.—See Waterworks Equipment.

Pump (Power and Centrifugal).—Details under Water Works.

Pumps (Centrifugal).—The Robert Mugge Co., Tampa, Fla.—Two 6-in. centrifugal pumps.

Rails.—Louisville Kiln Drying Co., 9th, and Magnolia Sts., Louisville, Ky.—13,500 lbs. of 25 lb. rails.

Rails (Relaying).—Miami Beach Railway Co., Miami Beach, Fla.—Approximately 2 mi. of 60 lb. relaying rails; state price f. o. b. Miami; will accept water delivery via Balto. & Carolina S. S. Co. or Clyde Line.

Refrigeration Outfit.—H. L. Ramsey, Propr., White House Mill and Farm, Atmore, Ala.—Refrigeration outfit for small creamery and ice cream plant.

Refrigerating Box Equipment.—Joseph Voight Co., Box 338, Norfolk, Va.—Equipment for refrigerating boxes including tracks, hangers, etc.

Road.—Town of Clearwater, Fla.—Details under Construction News—Road and Street Construction.

Road.—Town of Fayetteville, W. Va.—Details under Construction News—Road and Street Construction.

Road.—Town of Logan, W. Va.—Details under Construction News—Road and Street Construction.

Road.—Town of Inverness, Fla.—Details under Construction News—Road and Street Construction.

Road.—Town of Altamont, Tenn.—Details under Construction News—Road and Street Construction.

Road.—Town of Barnwell, S. C.—Details under Construction News—Road and Street Construction.

Road.—Town of Moncks Corner, S. C.—Details under Construction News—Road and Street Construction.

Road.—Town of Edgefield, S. C.—Details under Construction News—Road and Street Construction.

Road.—City of Beaumont, Tex.—Details under Construction News—Road and Street Construction.

Road.—Town of Brenham, Tex.—Details under Construction News—Road and Street Construction.

Roads.—City of Port Gibson, Miss.—Details under Construction News—Road and Street Construction.

Roads.—State Roads Comm., Baltimore, Md.—Details under Construction News—Road and Street Construction.

Roller (Road).—O. E. Worman, 252 Hennepin Ave., Minneapolis, Minn.—To rent or purchase 8 to 10 ton road roller.

Roofing (Metal).—Horse Shoe Lumber Co., River Falls, Ala.—To purchase lead or copper roofing to cover power house.

Roofing (Tile).—G. C. Miller, M. D., Chipley, Fla.—Tile roofing for \$10,000 residence.

Sewer.—City of Ashland, Ky. Details under Construction News—Sewer Construction.

Sewer.—City of Baltimore, Md. Details under Construction News—Sewer Construction.

Sewer.—City of Spencer, W. Va. Details under Construction News—Sewer Construction.

Sewer.—City of Atlanta, Ga.—Details under Construction News—Sewer Construction.

Sewer.—City of Milan, Tenn.—Details under Construction News—Sewer Construction.

Sewer Construction.—City Washington, D. C.—Details under Construction News—Sewer Construction.

Shovel (Steam).—Box 2867, Tampa, Fla.—Prices on Bucyrus steam shovel, 1 yd. dipper, crawler type, state description, condition, etc.

Steam Shovel (Crawler Type).—French Kaolin Co., St. Petersburg, Fla.—Standard make steam shovel ¾ yard crawler type traction; good condition; delivery La Grange, Ga.

Storage Tanks.—Benwick Gasoline Co., Box 962, Eastland, Texas—Three horizontal storage tanks, test pressure 40 lbs.

Switchboard.—Caswell Training School, Dr. C. Banks McNairy, Supt., Kinston, N. C.—See Laundry Equipment.

Tooth Brush Machinery.—F. C. Simpson, Box 981, care Fordson Motor Co., Inc., Atlanta, Ga. Correspondence with manufacturers of machinery for making tooth brushes.

Trench Excavation.—Water Dept., Wm. A. Megraw, Engr., Baltimore, Md., receives bids until July 25 for trench excavations; plans and specifications on file at office of City Register, City Hall, Baltimore.

Truck (Hand).—Pennsylvania Equipment Co., (Mchy. Dealers) Norwood Station, Penn.—Hand truck such as used in track construction for handling rails and ties second-hand.

Water.—Town of Lewisburg, W. Va.—Details under Construction News—Water Works.

Water.—City of Graham, N. C.—Details under Construction News—Waterworks.

Water.—City of Raleigh, N. C.—Details under Construction News—Water Works.

Water Supply System.—Treasury Dept., Supvg. Archt.'s Office, Washington, D. C.—Bids until Aug. 7 for new rain water supply system at U. S. Post Office, Neenah, Wis.

Waterworks.—Fort Smith Waterworks Dist., D. L. Ford, Chmn., Fort Smith, Ark. Bids until Aug. 1 to furnish lead and yarn for trenching, also laying and back filling about 64,000 ft. of cast iron water pipe; Kiersted & Stringfellow, Engrs., 611 Interstate Bldg., Kansas City, Mo.

Waterworks Equipment.—Kenedy Memorial Home, Theo. B. Davis, Supt., R. F. D. 3, Kinston, N. C.—60 ft. steel tower and a 15,000 or 20,000 gal. capacity steel tank for water works system, also pump to be electrically driven by 5 to 7½ h. p. motor.

Waterworks Equipment.—City of Tulsa, Okla.—Details under Construction News—Water Works.

Waterworks Extensions.—Town of Temple, Okla., Details under Construction News—Water Works.

Wheel Press.—The White Oak Corporation, H. T. Spencer, Pres., Knoxville, Tenn.—200 ton wheel press in good used condition.

Wire Drawing Machines.—John G. Palmer, Gen. Mgr., Florida Steel & Wire Co., corner E. Beaver and Van Buren Sts., Jacksonville, Fla.—To purchase immediately, wire drawing blocks.

Woodworking Machinery.—Board of Education, A. E. Mushrush, Clerk, 400 N. Walnut Ave., Oklahoma City, Okla. Bids until July 14 for 1 Crescent Universal woodworker complete, or its equal with 7½ H. P. motor. A. C., 3 phase, 60 cycle, 225 volts, f. o. b. Oklahoma City; equipped with the following extras: 1 band saw guard and 1 chisel mortiser.

Financial News

New Financial Corporations

D. C., Washington—Southern Mortgage & Loan Co., capital \$500,000, incorporated by J. C. Thompson, W. E. Berry, both of Washington, D. C.

Fla., West Palm Beach—Palm Beach Saving & Loan Assn., capital \$200,000 incorporated by George N. Hatch, A. H. Wagg, William Manple King.

Md., Baltimore—Marshall Building & Loan Assn., capital \$200,000 incorporated by Philip Blum, Joseph Lichtenburg and William E. Smith.

Mo., St. Joseph—The Midwest Savings and Loan Assn., capital \$500,000, incorporated by W. J. Schneider, E. L. Schneider and others.

N. C., Hamlet—The Page Trust Co., took over the First National Bank.

N. C., Shelby—The Shelby Insurance & Realty Co., has consolidated with the Union Trust Co.

Tenn., Bluff City—Bluff City Mortgage & Investment Co., incorporated by C. Morgan, N. A. Gordon, J. J. Lindsey, R. Jaffe and Guy P. Long.

Tex., Eastland—The Exchange National Bank, capital \$50,000, incorporated; Carl P. Springer, correspondent.

Tex., Port Arthur—Homestead Building & Loan Assn., capital \$2,000,000, incorporated with H. F. Banker, Pres.; Dr. W. E. Crumpler, Vice-Pres.

W. Va., Beckley—Beckley Building & Loan Assn., capital \$25,000, incorporated by Brown W. Payne, George Clark, Willie Spencer and others.

W. Va., Charleston—Coal Finance Corporation, capital \$50,000; incorporated by D. Minotti, S. M. Croft, Charleston; Harry P. Jones, Huntington and others.

New Securities

Ala., Albany—School—City will vote on \$75,000 bonds. Address The Mayor.

Ala., Cloverdale—Paving—Cloverdale sold \$75,000 bonds to Union Bank & Trust Co. of Montgomery; W. A. Graves, Mayor.

Ala., Mobile—Water and Sewer—City voted \$350,000 bonds. Address The Mayor.

Ala., Montgomery—School—City sold \$250,000 bonds to the Empire Trust Co. of Atlanta. Address The Mayor.

Ark., Paragould—Water—Paragould Water Improvement Dist. sold \$132,000 bonds to the National Bank of Commerce of St. Louis. Address School Dist. Trustees.

Fla., Avon Park—School—Avon Park voted \$75,000 bonds, will receive bids until Aug. 6. Address Bd. of Education.

Fla., Daytona—Highway—Volusia County

voted \$150,000 bonds. Address County Commrs.

Fla., Daytona—Park, Paving, Sewer, etc.—City will vote on \$670,000 bonds including, \$260,000 for river improvements; \$200,000 for street paving; \$100,000 for sewer; \$100,000 for water plant and \$10,000 for fire station. Address The Mayor.

Fla., Fort Lauderdale—Highway—Broward County sold \$200,000, 6% bonds to the Lauderdale State Bank of Fort Lauderdale at par and premium of \$5160. Address County Commrs.

Fla., Gainesville—Improvement—City postponed sale of bonds until July 30; G. H. Cairns, City Mgr.

Fla., Key West — Streets, Parks, Golf Courses—City sold \$200,000 bonds; \$150,000 for golf courses; \$25,000 for parks and \$25,000 for street paving. Address The Mayor.

Fla., Leesburg—Public Utility—Leesburg will receive bids until July 18 for \$25,000, 6%, \$500 denom. bonds. Address The Mayor.

Fla., Lemon City—School—Lemon City and Coconut Grove Dist. will vote on bonds. Address School Dist. Trustees.

Fla., Miami—Refunding—Dade County will receive bids until July 27 for \$175,000, 6% bonds; Charles M. Fisher, Supt. Bd. of Public Instruction.

Fla., Palm Beach—Municipal—City will vote Aug. 14 on \$220,000 bonds; \$25,000 for water and fire dept. \$100,000 for seawalls; \$14,000 for memorial library; \$6600 for lot cleaning; \$30,000 city athletic field; \$20,000 for incinerator. Address The Mayor.

Fla., Panama City—Paving—City sold \$100,000, 5% bonds to First National Bank of Panama City. Address The Mayor.

Fla., South Jacksonville—Street—City sold \$80,000 bonds to Florida Municipals, Inc., of Jacksonville at par and a premium of \$1450. Address The Mayor.

Fla., Tampa—School—Special Tax School Dist. No. 32, Hillsborough County will vote July 31 on \$6500 bonds. Address School Dist. Trustees.

Ga., Atlanta—School—City contemplates voting on \$5,000,000 bonds. Address The Mayor.

Ga., Atlanta—Water and Hydro Electric—City will probably issue \$1,500,000 bonds. Address The Finance Comm.

Ga., Thomasville—School—City will probably vote in Sept. on \$150,000 bond issue. Address The Mayor.

Ga., Wrightsville—Sewer—City will receive bids until Aug. 1 for \$30,000, 5½% bonds; A. H. Hatcher, Clk.

Ky., Manchester—Road—Clay County sold \$160,000, 5%, \$1000 denom. bonds to Caldwell & Co. of Nashville. Address County Commrs.

La., Abbeville—Road and Street—Vermilion Parish voted \$130,000 bonds. Address Parish Police Jury.

La., Eunice—School—Eunice School Dist. sold \$150,000, 5% bonds to Hanchett Bond Co. of Chicago at par. Address School Dist. Trustees.

La., Starks—School—Starks sold \$18,000 bonds to Caldwell & Co., of Nashville, Tenn., at par and accrued interest and premium of \$309.60. Address The Mayor.

La., Vivian—School—Vivian School Dist. No. 14 sold \$75,000 bonds to Interstate Trust & Banking Co. of New Orleans. Address Dist. Trustees.

La., West Monroe—Sewer—City will receive bids until July 31 for \$87,000, 5½% \$500 denom. bonds; C. C. Bell, Mayor.

La., West Monroe—Water—City will receive bids until July 31 for \$53,000, 5½% \$500 denom. bonds; C. C. Bell, Mayor.

Md., Frostburg—Water—City will receive bids until July 16 for \$55,000, 4½% bonds. Address The Mayor.

Miss., Beauregard—School—Beauregard School Dist. will vote on \$6500 bonds. Address Dist. Trustees.

Miss., Corinth—Drainage—Bank of Ripley purchased \$32,500 bonds of White Oak, West Hatchie and Big Hatchie Drainage Dist.

Miss., Holly Springs—Drainage—Cuffaw Drainage Dist. will receive bids until July 21 for \$27,000, 6%, \$500 denom. bonds. Address Drainage Dist. Commrs.

Miss., Lambert—Road—Quitman County Supervisors Dist. No. 5 sold \$50,000, 5½%, \$1000 denom. bonds to A. K. Tigrett & Co. and the Central State National Bank, both of Memphis. Address Dist. County Commrs.

Miss., Morgan City—School—Morgan City Consolidated School Dist. will vote Aug. 4 on \$10,000 bonds. Address School Dist. Trustees.

Miss., St. Cloud—School—St. Cloud School Dist. sold \$45,000 bonds at par and a premium of \$1750 to G. B. Sawyer Co., of Jacksonville. Address School Dist. Trustees.

M'ss., Tylertown—Road—Walshall County voted \$50,000 bonds. Address County Commissioners.

Miss., Vicksburg—Road and Bridge—Warren County will vote Aug. 28 on \$506,000 bonds. Address County Commrs.

Miss., Waynesboro — School — Denham School Dist. will vote at Denham Precinct July 31 on \$6000 bonds. Address School Dist. Trustees.

Mo., Edina—Waterworks and Sewer—City will vote July 21 on \$120,000 bonds; \$60,000 for sewers and \$60,000 for water works. Address The Mayor.

Mo., Kansas City—Fire Dept., Deficit—City plans voting in Oct. on about \$1,000,000 bonds. Address Mayor Cromwell.

Mo., Troy—Drainage—Cap-Au-Gris Drainage Dist. sold \$50,000, 5½% bonds to Browne, Simrall & Co. of St. Louis. Address Dist. Commrs.

N. C., Asheville—Municipal—City sold \$925,000 bonds to A. B. Leech & Co. at par and a premium of \$3300. Address The Mayor.

N. C., Bayboro — Pamlico County sold \$100,000, 5½% bonds to Sidney Spitzer & Co. of Toledo at a premium of \$50. Address County Commrs.

N. C., China Grove—School—China Grove voted \$50,000 bonds. Address The Mayor.

N. C., Elizabeth City—School—Elizabeth City Graded School Dist. sold \$120,000 bonds to Prudden & Co. of Toledo, Ohio, at par and a premium of \$2868. Address School Dist. Trustees.

N. C., Fairmont—Water and Sewer—City sold \$30,000 6% bonds to the Title Guarantee & Trust Co. of Cincinnati at par and a premium of \$477. Address The Mayor.

N. C., Graham—Funding—Alamance County sold \$95,000 bonds to Sidney Spitzer & Co., Toledo, Ohio, for \$96,012.59. Address County Commrs.

N. C., High Point—Improvement and Refunding—City sold \$834,000 bonds to the Commercial National Bank, High Point, at par and a premium of \$834; Address The Mayor.

N. C., Lexington—School—Davidson County Commrs. will receive bids until July 28 for \$20,000, 6% bonds of Southmont School Dist.; W. J. Parker, County Clk.

N. C., Moss Point—School and Fire Equipment—City plans issuing \$12,500 school and \$5500 fire equipment bonds. Address The Mayor.

N. C., Wadesboro—Chowan County will receive bids until Aug. 6 for \$150,000 bonds; R. W. Boyce, Clk.

S. C., Aiken—School—City voted \$25,000 bonds. Address The Mayor.

S. C., Chicora—School—Chicora and North Charleston voted \$75,000 bonds for School Dist. No. 4. Address School Dist. Trustees.

S. C., Dillon—School—Dillon School Dist. No. 8 sold \$30,000 bonds to the Lowry Bank & Trust Co., of Atlanta. Address School Dist. Trustees.

S. C., Seneca—Paving—City will receive bids until Aug. 1 for \$48,000, 5% \$1000 denom. bonds, subject to being voted on July 22. Mr. Richardson, City Clk.

S. C., Spartanburg—Improvement—City plans issuing \$500,000 bonds; John F. Floyd, Mayor.

S. C., Walterboro—School—City voted \$59,000 bonds. Address The Mayor.

Tenn., Chattanooga—School—City voted \$925,000 bonds; \$750,000 for schools and \$175,000 for hospital. Address The Mayor.

Tenn., Cleveland—Refunding and School—City voted \$75,000 bonds for schools and \$45,000 for refunding. Address The Mayor.

Tenn., Halls—School—Halls Special School Dist. will receive bids until July 16 for \$35,000, 5½% bonds; R. M. Jordon, Chmn.

Tenn., Henderson—School—Henderson voted \$10,000 bonds. Address The Mayor.

Tenn., Madisonville—School—Monroe County will vote on \$260,000 bonds. Address County Commrs.

Tex., Angleton—Road—Brazoria County voted \$25,000 bonds. Address County Commrs.

Tex., Ben Franklin—School—City voted \$16,000 bonds. Address The Mayor.

Tex., Biggs—School—City sold \$20,000 bonds. Address Bd. of Education.

Tex., Brownwood—Auditorium—City will vote on \$50,000 bonds. Address The Mayor.

Tex., Burkburnett—Water and Street—City will receive bids until July 16 for \$38,000 water works bonds and \$48,000 street improvement 6% bonds. Address The Mayor. (Lately noted.)

Tex., Dallas—Municipal buildings—Highland Park will vote July 28 on \$65,000 bonds.

Tex., Dallas—Mortgage—Dallas Country Club will open bids July 16 for \$75,000, 7% bonds; C. C. Hall, Sec.

Tex., Gainesville—School—City will vote Aug. 7 on \$100,000 bonds. Address The Mayor.

Tex., Galveston—Sea Wall—City will receive bids until Sept. 19 for \$1,475,000 bonds. Address The Mayor.

Tex., Georgetown—School—Winyah-Indigo School Dist. No. 5 sold \$59,000, 5½% to Ryan-Bowman & Co. of Toledo. Address School Dist. Trustees.

Tex., Goeman—School—City voted \$25,000 bonds. Address School Bd.

Tex., Grand Prairie—Sewer—City voted \$65,000 bonds. Address The Mayor.

Tex., Greenville—Court House—City will vote on \$400,000 bonds. Address The Mayor.

Tex., Hearne—Sewer—City will vote July 24 on \$51,000, 6% bonds. W. H. Ely, Mayor.

Tex., Levelland—School—Levelland Independent School Dist. voted \$50,000 bonds. Address School Dist., Trustees.

Tex., Sanger—Water, Sewer and Electric—City voted \$95,000 bonds. Address The Mayor.

Tex., Sterling City—School—City will vote Aug. 4 on \$50,000, 5% bonds. Address School Trustees.

Tex., Waxahachie—J. D. Kirven, Ellis County Levee Improvement Dist. No. 11, is receiving bids for \$52,000, 6%, \$1000 denom. 30 yr. bonds.

Va., Hopewell—School—City voted \$7500 bonds. Address The Mayor.

Va., Metomkin—School—Metomkin Dist. plans voting on \$125,000 bonds for school at Parksley; N. B. Wescot, Judge, Accomac.

Va., Princess Anne—Road—Princess Anne County will receive bids until July 30 for \$250,000, 5½% bonds. Address John C. Wood, Chmn. Bd. of Supvrs.

Va., Staunton—Water—City will probably vote in November on bonds; J. W. Pilson, Mayor.

W. Va., Charleston—School—Charleston Independent School Dist. sold \$1,350,000 bonds to the State Sinking Fund Comsn. of the Bd. of Education for par and accrued interest. Address School Dist. Trustees.

W. Va., Charleston—Road—State will issue another \$5,000,000 bonds of the \$15,000,000 bond issue authorized; Mr. Morgan, Gov.

W. Va., Parkersburg—Street—City sold \$300,000 bonds to the state workmen's compensation comsn. Address The Mayor.

Financial Notes

Greater Louisville Savings and Building Assn., Louisville, Ky., increased capital from \$5,000,000 to \$5,500,000.

People's Bank of Westville, Westville, Okla., increased capital from \$10,500 to \$15,000.

Trade Literature

Industrial Painting By Air.

Bulletin No. 12 of the Binks Spray Equipment Co., 3114-26 Carroll Ave., Chicago, Ill., is devoted to description and illustration of the Binks "Airway Equipment" for industrial painting. It is stated that one man operating one of this company's paint guns can do as much work as six men working with hand brushes with, besides, great saving of coating materials. The gun, it is noted, dusts all surfaces by air before applying the paint, which is applied in a uniform spray. There are two finger trigger grip and other advantages that appeal to the practical man who wants economy and efficiency. Other equipment is also described.

Fine Catalogue on Reciprocating Pumps.

The Bethlehem-Wehr Pumps, for boiler feeding and other duties, are completely covered in a finely illustrated catalogue issued by the Bethlehem Shipbuilding Corporation, Ltd., of Bethlehem, Pa. These reciprocating pumps are designed, it is stated, to work at a moderate speed, thus insuring long life and satisfactory operation and it is particularly noted that the special type of steam valve causes the pumps to slow down toward the end of the stroke, and consequently the water valves settle quietly in their seats. This produces quiet operation; it prevents jar and shock in the pipes. As the pumps will not "short stroke" under any condition there is a minimum clearance space and saving in steam consumption. Small floor space is required and the pumps are easy to install. The catalogue includes the company's line of oil pumps.

New Compressor Bulletin.

The Novo Engine Company, Lansing, Mich., has issued a new bulletin, No. 153, which illustrates and describes the company's Novo air compressor outfits. It is noted that a distinctive feature of these units is the belt drive that is pictured. Also, as mentioned in the description, individual cooling systems have been provided for both engine and compressor and the engine can if necessary be used as an independent power plant. The bulletin is very complete throughout and the illustrations which it contains are fine and accurate.

Bulletin on Portable Hoists.

Two new bulletins on Sullivan portable hoists have been issued by the Sullivan Machinery Co., People's Gas Building, Chicago. One of these, numbered 76-C, relates to single drum hoists and the other, 76-D, to double drum hoists for scraper loading. While these publications are reprints from earlier editions the company has added to them much live news and various pictures which make them more interesting and practical. It is observed that the variety of uses for these small hoists increases from day to day. They can be used at any quarry or on any construction job with much economy.

Bulletin for Sewer Builders.

Sewer Builders Bulletin No. 523 issued by the W. H. Anderson Tool & Supply Co., of Detroit, Mich., covers trench braces, the Anderson patent manhole steps, sewer tunneling winches, clay cutting knives, brick lowering boxes, mud boxes, clay forks, sewer cars, etc. In addition to the items described and illustrated the company also makes special tools and appliances used by contractors in various lines such as road construction, concrete work, paving and excavating. The bulletin is completely illustrated and the tabulated data which it contains will be appreciated by purchasers of equipment.

Catalogue of Rolling Steel Doors.

The J. G. Wilson Corporation, 11 East Thirty Sixth St., New York City, have issued a fine, large new catalogue of their rolling steel doors which are patented. This catalogue has been prepared especially for the use of architects and engineers and it contains data which will enable them to plan their buildings for the most practical and economical installation of these rolling doors. The factory of the corporation is at Norfolk, Va. There are district offices in ten large cities and branch offices in thirty others. It is claimed for these doors that they offer maximum resistance to fire and also discourage theft. They are overhead and out of the way. All gears are protected from exposure to the elements.

Plows for Road Building, Etc.

The Wiard Plow Company, Batavia, N. Y., have issued a fine catalogue fully describing and illustrating their line of plows. Especially interesting are the Wiard road or contractors' plows, descriptions and pictures of which are to be found on pages 46 to 49 inclusive. These plows are made to withstand the most severe conditions of road and other contractors' jobs. They weigh from 160 to 250 pounds each according to type and are suited for teams of up to six horses. The lighter plows are for light service when a small gang is working, yet they are strong and efficient even for hard work. The larger sizes are for bigger jobs. The catalogue also covers farm plows of different types, weedeaters, harvesters, rakes, harrows, corn planters, etc. A separate retail price list is also issued.

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers, or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Now in New Position.

J. C. Bloomfield, for a number of years with R. W. Hunt & Co., Chicago contractors, has now taken charge of the Industrial Works' Chicago office 1051 McCormick Bldg., selling industrial equipment.

Stokers, Boilers, Etc., Installed.

Purchases and installations of underfeed stokers, clinker grinders, line shafting, boiler furnace doors, boilers, etc., are reported made by the Westinghouse Electric & Manufacturing Company's stoker department, South Philadelphia Works, as follows: Torrington, Conn., Electric Light Co.; Metropolitan Edison Co., Reading, Pa.; Consolidated Light, Heat & Power Co., Kenova, W. Va.; Eastern Connecticut Power Co., Montville, Conn.; Norfolk & Western Railway Co., Bluestone, W. Va.; Madison, (Wis.), Gas & Electric Co., and Onondaga Pottery Co., Syracuse, N. Y.

The Millionth Pump Celebrated.

"The Dream. The Realization, and now an Achievement." This is the title upon a little publication from S. F. Bowser & Co., Fort Wayne, Ind., telling that "Bowser Builds His Millionth Self-Measuring Pump." There was a celebration on Friday, June 22, 1923, to commemorate this accomplishment, President S. B. Bechtel presiding. There was music by a band, the singing of America, an invocation by Rev. J. R. Gunn and "Reminiscences" by S. F. Bowser. Then came the unveiling of "The Millionth Pump" with remarks by John F. Fonner, chairman of the Bowser shop control organization; E. F. Yarnelle, of Fort Wayne; and H. J. Grosvenor, secretary-treasurer of S. F. Bowser & Co., the programme closing with appropriate music. There is a picture of Mr. Bowser and also one of his big factory on the site of the cowshed where the business began thirty-eight years ago.

Ice and Refrigerating Machinery.

The York Manufacturing Company, York, Pa., manufacturers of ice making and refrigerating machinery, report making 255 sales and installations of their products since their last statement of June 13, among them being 68 at various places in the South as follows: Wauchula, Fla.; Montezuma, Ga.; Gastonia, N. C.; Violet, La.; Groesbeck, Tex.; Middlesboro, Ky.; Graham, N. C.; Durham, N. C.; Havre de Grace, Md.; Bastrop, La.; Woodville, Tex.; El Campo, Tex.; Beaumont, Tex.; Washington, D. C.; Pauls Valley, Okla.; Dallas, Tex.; Holdenville, Okla.; Carrollton, Mo.; St. Petersburg, Fla.; San Angelo, Tex.; Cumberland, Md.; Sikeston, Mo.; St. Louis, Mo.; Upper Marlboro, Md.; Rotan, Tex.; New Orleans, La.; Chelsea, Okla.; Sturgis, Ky.; Coalgate, Okla.; Owensboro, Ky.; Tyler-town, Miss.; Farmersville, La.; Pocomoke City, Md.; Medill, Mo.; Alvarado, Tex.; Nashville, Tenn.; New London, Mo.; Vernon, Tex.; Montgomery, Ala.; Newberry, N. C.; Kansas City, Mo.; Warrenton, Va.; Clarksburg, W. Va.; Elm Grove, W. Va.; Terra Alta, W. Va.; Dothan, Ala.; Woodward, Okla.; Parish, Ala.; Shelby, N. C.; Louisville, Ky.; Petersburg, Va.; Baltimore, Md.; Birmingham, Ala.; Portsmouth, Va.; Sykesville, Md.; Elizabethtown, Tenn.; Tulsa, Okla.; Mountain Grove, Mo.; Fort Smith, Ark.; Poplar Bluff, Mo. At several places two or more installations were made.

New Banking Firm.

The firm of Moore, Hyams & Company, Inc., has been organized as successor to Hyams, Moore & Wheeler to conduct an investment, banking and brokerage business at 401-405 Canal-Commercial Building, New Orleans, La. The members of the new firm are Robert Moore, Chapman H. Hyams, Jr., Joseph J. Farrell, Robert Moore, Jr., Robert M. Woolfolk and Chapman H. Hyams, III.

Mixers for Canada and Muscle Shoals.

The T. L. Smith Co., of Milwaukee, Wis., has shipped to Hebertsville, Canada, two four-yard, (112-S) Smith tilting mixers to be used on the hydraulic dam project there. They are duplicates of two that were used at Muscle Shoals, and are of unusual dimensions. Four more two-yard (56-S) mixers of this type are being built for the Wilson Dam project at the foot of Muscle Shoals.

Branch Established at Baltimore.

A branch warehouse at 38 South Calvert St., Baltimore, Md., has been opened by the Carroll Electric Co., Inc., jobber of electrical supplies and machinery, whose headquarters are at 714 Twelfth St., Washington, D. C. This company was established in 1900, twenty-three years ago, and is an exclusive distributor for a number of nationally known manufacturers. It carries in stock a complete line, including motors, fans, blowers, transmission equipment and other electrical products. The Baltimore branch was established May 1, the company having bought and absorbed the old Chesapeake Electric Co. The officers of the company are Harry R. Carroll, president; Louis D. Carroll, vice president and director of sales; Harry W. Clayton, secretary. The Baltimore branch is under the charge of T. Gant Hardesty, who for twenty years past has been connected with the electrical supply business in that city, and the sales director, Louis D. Carroll, also makes his headquarters there. Representatives of the company travel in Maryland, Virginia, Delaware, parts of Pennsylvania, West Virginia and North Carolina.

High Pressure Fire Pump.

The city of Santo Domingo, in the West Indies, whose 20,000 inhabitants have been without a fire protection service, has decided to purchase an Evinrude high pressure pump, after a demonstration of its efficiency before the mayor and other officials, and prominent business men. The city being without water supply other than rain water cisterns, it is thought that by placing three or four pumps of this type at salient points it will be able to successfully fight disastrous fires of which there have been several within the last few months. This high pressure pump is driven by an Evinrude two cylinder, two cycle, 4-5 horse-power gasoline engine, the pump being a 1½ inch special type. Both are mounted on a strong base and weigh only 99½ pounds. This pumping unit is designed especially for use at industrial plants, in small towns and at isolated institutions, besides for fighting forest fires and lumber yard protection. Although designed to operate against 120 pounds pressure, in demonstrations it has greatly exceeded its rated capacity.

Appointed to Coal Storage Committee.

George T. Ladd, president of the George T. Ladd Company, manufacturers of the Ladd water tube boiler, Pittsburgh, Pa., has been appointed a member of a sub-committee of the American Society of Mechanical Engineers on the storage of coal, which was organized to determine the engineering, mechanical and economic factors involved in coal storage. He represents the Pittsburgh section of the A. S. M. E.

Another Office Opened.

Robert & Company, Incorporated, architects and engineers, Atlanta, Ga., have also opened an office in the Interurban Building at Dallas, Tex., which will be headquarters for all of the firm's business in the Southwest, including territory west of the Mississippi River and south of St. Louis. The staff of the Dallas office will be built up to handle all departments of architecture and engineering work, the same as the main office in Atlanta; there will thus be a full force of engineers in the heart of the western district. The firm will look after extensive industrial investments, particularly in that section including Texas and Oklahoma and they already have several projects under way. The office will cater particularly to industrial development covering textile mills, hydro-electric plants, and commercial developments. At the same time they will do general architectural and engineering. The permanent manager of the Dallas office has not yet been appointed.

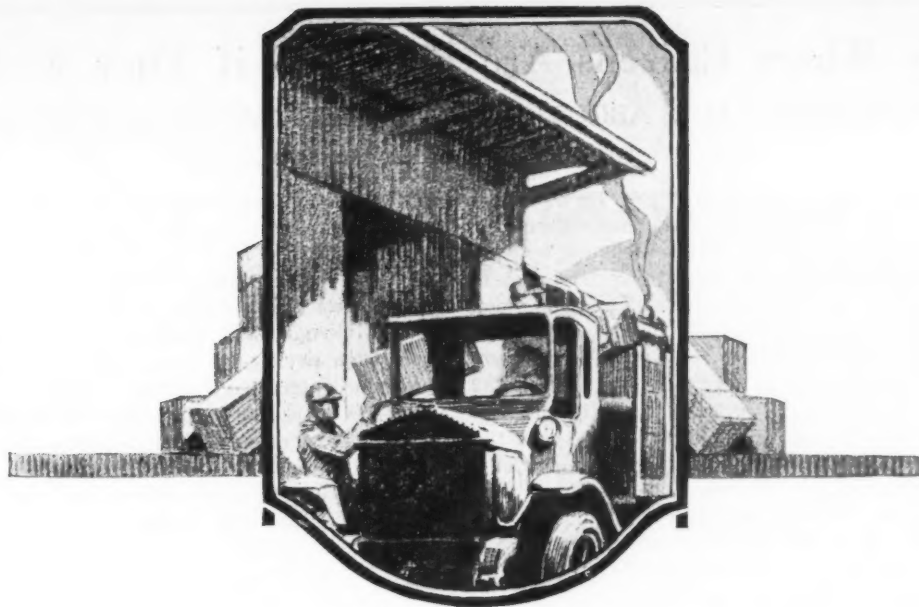
Reorganization and Enlargement.

The Orton & Steinbrenner Co., 608 S. Dearborn St., Chicago, Ill., manufacturers of locomotive cranes, dipper shovels and grab buckets, have reorganized and elected officers as follows: P. A. Orton, president and general manager; E. B. Ayers, vice-president; Herbert Mertz, secretary and sales manager; Harry Shaffer, treasurer and purchasing agent; G. L. Niederst, chief engineer; Alex. Orton, works manager. There has not been change in the management, control, or policy of the company, nor is any contemplated. The reorganization was caused only by the resignation of H. G. Steinbrenner as president and the disposal of his interest in the company, which was organized in 1906. The factory and works are in Huntington, Ind., and the main offices are in Chicago. The size of the plant has been increased several times to meet increased demand for the company's products and at present work is being pushed on construction of a new machine shop which will about double the present capacity.

Old Established Plant Again Expands.

The Franklin Machine Co., engineers, founders and machinists, Providence, R. I., has again enlarged its scope and facilities by recently purchasing the American & British Manufacturing Corporation's plant, also of that city and successor of the George H. Corliss Steam Engine Works, with all of the latter's original drawings and patterns, so that the company is now able to furnish the trade with either Harris-Corliss, George H. Corliss, Greene-Wheelock, or American Diesel type engine units and to give prompt delivery on repair parts. The Franklin Company was established in 1798 and incorporated in 1885. In 1916 it was turned over to new control and management and after two years the Wm. A. Harris Steam Engine Co., of Providence, was absorbed, including records, drawings and patterns of the Harris-Corliss stationary engines. The company also manufactures shoe lace tipping machinery, ball winding machines, spun silk and French worsted drawing frames, and other textile machinery.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.



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Poor or improperly designed containers waste lumber; increase freight and express costs; add to overhead expense; increase loss and damage claims; jeopardize good will and handicap sales and advertising effort.

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Our box engineers will be glad to study your shipping methods and submit their recommendations to you. If you cannot use Pioneers they will suggest some other construction. We make all types of wooden boxes and crates and, therefore, you can rely implicitly on their advice.

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INTERESTING FACTS ABOUT CENTRAL AMERICAN BUSINESS AFFAIRS.

By CHESTER T. CROWELL, New York.

While Europe and more particularly the Ruhr Valley occupy the front pages of American newspapers there are developments of an entirely different nature—though scarcely less sensational—going forward in Central America, and to some extent in South America. Briefly, the Latin-American Republics can no longer finance themselves in Europe because Europe has troubles of its own, and Latin-America is turning to the United States. Immediately after the World War Europe began to recover its lost trade in Latin-America, but it could not return to the field of finance. And now the complications in the Ruhr valley will affect even trade; Latin-America will have its doubts about the ability of Germany to deliver goods whose manufacture is in any way dependent upon the coal mines or industrial plants of that part of Germany. Moreover, it is natural for a borrowing nation to spend a large part of the amount borrowed in the countries from which the capital came.

In connection with this general statement let us consider just one specific case. There is the republic of Salvador in Central America. It had always done its borrowing in England and had always been successful. Its financial record was excellent. It had borrowed principally for railroad construction and the railroads were English built. Moreover, they had shown remarkable returns. Salvador is not a large country as to area but it ranks next to Belgium in density of population, a fact which is not very well known in the United States. It has a much larger population to the square mile than our own country. Its political record is also excellent. Salvador has not suffered the overturning of its government by revolution for more than a quarter of a century. There was every reason for the nation, on its record both political and economic, to get more money in England but it came to the United States a few months ago and borrowed six million dollars. This is to be used in completing its projected transcontinental railway line from La Union (its Pacific port) to Puerto Barrios (an important Atlantic port) as well as for other public works. The capital of the country, San Salvador, has grown steadily during the last ten years so that its water works, sewer system, and paving are no longer adequate. The population of the capital is rapidly approaching 100,000. Twelve years ago it was probably not much over half that. These facilities will all be brought up to date and most of the contracts if not all of them will be placed either with American or native firms. In either event it is probable that the necessary supplies will be purchased in the United States. These developments are destined to have a very definite and permanent effect upon Southern Atlantic and Gulf ports of the United States such as Baltimore and New Orleans. More especially will this be noted after the missing link in Salvador's railway system is completed.

Because the Central American nations were closely linked with Europe, both by trade relations and in the field of finance, previous to the World War, very little was known about them in this country except for the colorful writings of fictionists and some books of travel. Even now the most exact statements about them are to be obtained from English reports, or German.

Take the case of Guatemala, for example. At one time its trade was almost entirely with England. Then the Germans entered the business of developing coffee plantations. At the time of the World War not only the banks but business men as well, whether native or German, carried large balances with German banks. The larger business of the country was done in German marks. Salvador spoke in the

same terms of the English pound sterling. Now, all of them translate values into the American dollar. Europe knew those countries but the United States did not. When Salvador recently came to this country to borrow, American bankers were astounded to learn that Salvador had never been bankrupt; had enjoyed constitutional government for more than twenty-five years; had never in its entire history known a depreciated currency; had been one of the wealthiest countries of the globe just previous to the World War with local interest rates varying between four and six per cent; had an extensive banking system all native owned and operated; owned nearly all of its public utilities such as electric lighting and telephone and telegraph and street railway systems.

As a general commentary on Central America the record of Guatemala presents an interesting fact about government administration also. It will be recalled that when the United States entered the world war Guatemala threw in her lot with the allies in spite of her close business relations with Germany. As a war measure the vast German owned properties in Guatemala were seized by the government. They were administered by the government. At the close of the war they were promptly turned back to their owners, together with the profits they had earned, the government retaining only a ten per cent fee to cover the cost of administration. No one was more astounded at this than the owners.

Coffee is the principal export of Salvador as it is of Guatemala but in Salvador nearly all of the plantations are very small. A majority of the people of Salvador are landowners. Their staple "money crop" has always been a sure producer, enjoying a world market. This is a crop which demands very close attention so that the people of Salvador are among the most industrious and peaceful of the world. They discovered a long time ago that one of the sure roads to political peace was compulsory education, compulsory voting, and no re-election. The voter in Salvador who fails to cast his ballot must pay a fine equivalent to five dollars in American money. But the election lasts three days. The last presidential election was held January 14, 15 and 16 of this year. The successful candidate was Alfonso Quinones Molina, a physician, who will take office March 1 succeeding the present incumbent, Jorge Melendez. The presidential term is four years. Mexico also has the provision of "no re-election" in her constitution but it has not worked so well there. Porfirio Diaz was president thirty-six years and since his departure the mortality rate among presidents has been rather high. But Salvador takes her constitution seriously and has lived up to its provisions.

It will probably be ten years or more before the American public becomes familiar with what is happening in Central America but that will not retard the progress. A few large banking houses, a few large manufacturers will be adequate; the needs of the countries are not enormous. Certain ports will notice increasing freight shipments—and eventually the American people will find out that they had acquired a new and very rich trade territory at the very time when its development was going forward most rapidly; for the long and tedious pioneer work has already been done.

The Telegraphers' National Bank of St. Louis, Otto J. Gossrau, vice-president and manager, is considering the erection of four additional stories to its building for office purposes. The addition will cost about \$250,000.

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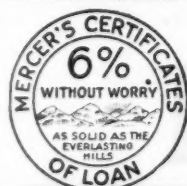
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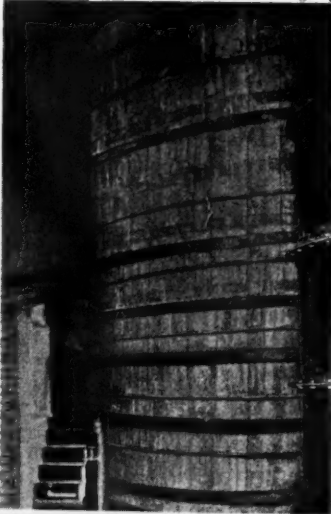
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President



AWAY BACK IN 1877

The Fleishman Company erected in their distillery a Worm Tub.

The Hauser-Stander Tank Company built this tub and in 1915, when this photo was taken, the tank was giving satisfactory service.

Thirty-eight years service is no mean accomplishment, and we are justly proud of it.

When in the market for tanks, don't fail to get full information about the Tanks that

"Win With Quality."

HAUSER-STANDER TANK CO.
CINCINNATI, OHIO

THE FLEISHMAN COMPANY
MANUFACTURING DEPARTMENT
RIVERSIDE, O.

*To the Hauser-Stander Tank Co.
Cincinnati Ohio.*

Gentlemen:

We have ordered order for new Worm Tub to replace one built by you in 1877, and trust that the new one will give as good service as the original one now in use.

*Yours truly,
The Fleishman Co.
J. H. H. H. H.*

THE FLEISHMAN COMPANY
MANUFACTURING DEPARTMENT
RIVERSIDE, O.

*To the Hauser-Stander Tank Co.
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The Fleishman Co.
J. H. H. H. H.*

FORGINGS



Connecting rod for engine of large steamship.
Weight, 15,900 pounds.



Ring for grinding ore.
Weight, 6050 pounds.

HERE at Bethlehem are the steel-producing facilities, the completely-equipped forge shops and the experience to meet your forging requirements. Light forgings or heavy forgings—forgings of intricate design or of special steel—whatever your needs, Bethlehem can supply them in a thoroughly satisfactory manner.

BETHLEHEM STEEL COMPANY

General Offices: BETHLEHEM, PA.

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New York Boston Philadelphia Baltimore Washington

Atlanta Pittsburgh Buffalo Cleveland Cincinnati

Detroit Chicago St. Louis San Francisco

Bethlehem Steel Export Corporation, 25 Broadway, New York City
Sole Exporter of our Commercial Products

BETHLEHEM

Ditching With Dynamite in Florida.

A number of tests in ditching with dynamite were conducted recently on the properties of the South Indian River Farms Company near West Palm Beach, Florida, under the direction of Charles H. Ruggles, chief engineer of the duPont Company. The actual dynamite work was done under the supervision of Otho O'B. Strayer.

The findings of the engineer after the tests are reported as follows: The ditching experiments indicated conclusively that making the ditches with dynamite could be done at a material saving over the machine method; in some cases the saving would be as much as one-half; that on high pine lands, on laterals and on the main ditch one mile through high land, the issue is in doubt, and depends entirely on the labor involved in preparing the blast holes. A test to determine this point will be made shortly, the drilling to be done with a drilling machine supplied by Mr. Strayer.

The preliminary reports on the tests made by Mr. Ruggles

show that successful ditches were dug through wet mucky sand loam; through rock, sandy loam and quick sand; through quick sand, white sand, marl, and into and across a muck pond and through an almost impenetrable thicket, which the blast opened up completely. Another ditch thirty feet wide and six feet deep was blown, and reported as eminently successful. In this large ditch, loading was done with three holes, one on the center, one 30" on each side of the center and 24" longitudinally and to a depth of about 4 feet.

The drilling machine with which the holes will be put down on the main ditch, will make it possible with a gang of three men and two loaders to drill and load and blast lateral ditches at the rate of from 1200 to 1500 feet per day through all kinds of land, concludes the report.

The Cole Realty Co. of Bluefield, W. Va. will erect a four-story office building to be occupied by the Appalachian Power Co. under a long-term lease. Mahood & Van Dusen of Bluefield are the architects.



Bids close August 15, 1923.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 16, 1923.—**SEALED PROPOSALS** will be opened in this office at 3 p. m., Aug. 15, 1923, for a water supply system at the United States Veterans Hospital, at Chelsea, New York. Drawings and specifications may be obtained at this office in the discretion of the Supervising Architect. Proposals will be considered only from individuals, firms, or corporations possessing satisfactory financial and technical ability, equipment, and organization to insure speedy completion of the contract, and who have established a record for expedition on contracts of similar character and magnitude. The fact that any concern obtains a set of the plans and specifications from any source whatever and submits a bid shall not constitute a waiver of the foregoing stipulations. JAS. A. WETMORE, Acting Supervising Architect.

Bids Close August 10, 1923.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 12, 1923.—**SEALED PROPOSALS** will be opened in this office at 3 P. M., Aug. 10, 1923, for the construction of a new lookout gallery in the United States Post Office and Court House at Wheeling, W. Va. Drawings and specifications may be obtained from the Custodian of the building, or at this office in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close August 6, 1923.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., July 6, 1923.—**SEALED PROPOSALS** will be opened in this office at 3 p. m., Aug. 6, 1923, for the construction of a one story brick, non-fireproof, extension approximately 23x46 feet in size, and the extension of present brick driveway at the United States Post Office at Spartanburg, S. C. Drawings and specifications may be obtained from the Custodian of the building, or at this office in the discretion of the Supervising Architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close August 13, 1923.

U. S. Engineer Office, Baltimore, Md. Sealed proposals will be received here until 1 P. M., Eastern Standard Time, August 13, 1923 and then opened, for dredging in Baltimore Harbor and Channels, Md. Further information on application.

RATE: 35 cents per line per insertion. **PUBLICATION DAY:** Thursday.

FORMS CLOSE 4 P. M., Monday. **DAY LETTER:** When too late to send copy by mail to reach us by 4 P. M. Monday, forward by day letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD: Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements. The same rate applies—35 cents per line per insertion.

Bids close August 4, 1923.

SEALED PROPOSALS will be received at the U. S. Engineer Office, 329 Custom House, New Orleans, La., until 9 a. m., August 4, 1923, and then opened for constructing Dikes and Mattresses at head of South Pass. Further information on application.

Bids close August 6, 1923.

U. S. Engineer Office, Mobile, Ala.—Sealed proposals will be received here until 11 o'clock A. M., August 6, 1923, and then opened, for furnishing and delivering one steel derrick boat hull, length 80 ft., beam 34 ft., moulded depth 5 ft. Further information on application.

Bids close August 7, 1923.

\$50,000 6% County Bonds

Beaufort, S. C. The County Board of Directors of Beaufort County, South Carolina, will receive sealed bids until twelve o'clock M., on Tuesday, the 7th day of August, 1923, for \$50,000.00 Beaufort County Bridge Bonds, to bear 6% interest, payable semi-annually, at a New York bank or the office of the County Treasurer of Beaufort County, as may be agreed upon, said bonds to be dated September 1st, 1923, and to mature in twenty years. Certified check of \$250.00, payable to C. G. Luther, Chairman, must accompany each bid.

The bonds will be issued in such denominations as are most satisfactory to the successful bidder. The purchaser will pay the cost of printing the bonds. The County Board of Directors reserves the right to reject any and all bids.

June 5th, 1923.

C. G. LUTHER,
Chairman.

Bids close July 31, 1923.

U. S. Engineer Office, Baltimore, Md.—Sealed proposals will be received here until 1 P. M., Eastern Standard Time, July 31, 1923, and then opened, for dredging in Queenstown Harbor, Md. Further information on application.

Bids close July 24, 1923.

\$220,000 6% Bonds

Fort Pierce, Fla.

Sealed bids for \$220,000 Fort Pierce Inlet District Six Per Cent. Coupon Bonds will be opened at two o'clock p. m., July 24, 1923. Bonds mature serially from 1925 to 1948. Payable at United States Mortgage & Trust Company, New York City. Approving opinion by John C. Thomson.

For full information address

C. M. HORTON,
Secretary.

Bids close July 25, 1923.

\$1,150,000 5% Road Bonds

Bastrop, La.

The Police Jury of Morehouse Parish, Louisiana, will receive sealed proposals at its office in the Town of Bastrop till twelve o'clock noon, Wednesday, July 25, 1923, for the purchase of the following road bonds:

1. An issue of \$325,700.00 made by Road District Number One payable serially on the 1st day of February, 1924 to 1955; and bearing five per cent. interest payable semi-annually on February 1st and August 1st of each year.

2. An issue of \$820,300.00 made by Road District Number Two payable serially on the 1st day of February, 1924 to 1955; and bearing five per cent. interest payable semi-annually on February 1st and August 1st of each year.

All proposals must be tendered in a sealed envelope addressed to the Police Jury of the Parish of Morehouse, Louisiana; and each proposal must be accompanied by certified check drawn to the order of the Treasurer of Morehouse Parish, Louisiana, for two per cent. of the amount of the bonds covered by it. This deposit to be forfeited in case any bidder fails to comply with his bid if accepted.

No bid will be accepted for less than par and accrued interest to the date of the delivery of the bonds; and the Police Jury reserves the right to reject any and all bids.

All bidders are requested to submit proposals (a) with the right in the bidder to designate the depository and (b) with that right reserved to the Police Jury.

For further details apply to C. N. Dalton, Clerk of the Police Jury, Bastrop, Louisiana.

By order of the Police Jury this the 1st day of May, 1923.

C. N. DALTON,
Clerk.

Bids close August 1, 1923.

\$30,000 5 1/2% Sewerage Bonds

Wrightsville, Ga.

Will be sold to the highest bidder for cash on August 1st, 1923, at 2 o'clock P. M., \$30,000.00 SEWERAGE BONDS in and for the city of Wrightsville, bearing interest from date of issue at the rate of 5 1/2% interest payable annually, said bonds maturing December 1st, 1949. Said sale to be at the Council Chamber in said city, and all bids must be accompanied by certified check for at least \$1000, be addressed to the clerk of said city and be sealed and plainly marked "Bids for Bonds." The Mayor and Council of Wrightsville reserves the right to reject any and all bids. This July 10th, 1923.

Mayor and Council of Wrightsville,
A. L. HATCHER, Clerk.

Bids close August 15, 1923.

\$135,000 Public Improvement Bonds

Southern Pines, N. C.

Sealed proposals will be received by the Board of Commissioners of the Town of Southern Pines, North Carolina, at the Office of the Mayor in said Town, until the 15th day of August, 1923, at 12.00 o'clock, noon, when they will be publicly opened, for the purchase of \$135,000 Public Improvement Bonds of the Town of Southern Pines. The bonds will be dated August 1, 1923, will bear interest at a rate to be hereafter determined, payable semi-annually on February 1st and August 1st, will be of the denomination of \$1000 each, and will mature serially, four bonds on August 1st in each of the years 1926 to 1935, inclusive, seven bonds on August 1st, 1936 and eight bonds on August 1st in each of the years 1937 to 1947, inclusive. The bonds will be coupon bonds, with privilege of conversion into fully registered bonds. Principal and interest will be payable in gold coin of the United States, at The National Park Bank, in the City of New York, and interest on registered bonds will, at the option of the holder be paid in New York exchange.

Proposals must be enclosed in a sealed envelope marked on the outside "Proposal for Bonds" and addressed to R. L. Chandler, Town Clerk, Southern Pines, North Carolina. Bidders must deposit with said Town Clerk before making their bids, or present with their bids a certified check drawn to the order of the Town of Southern Pines, upon an incorporated bank or trust company, or a sum of money for or in an amount equal to two per centum (2%) of the face amount of bonds bid for, to secure the municipality against any loss resulting from a failure of the bidder to comply with the terms of his bid. Purchasers must pay accrued interest from the date of the bonds to the date of delivery. The bonds cannot be sold at less than par and accrued interest.

Successful bidders will be furnished with the opinion of Messrs. Reed, Dougherty & Hoyt, of New York City, that the bonds are valid and binding obligations of the Town of Southern Pines.

Dated July 3rd, 1923.

R. L. CHANDLER,
Town Clerk.

Bids close August 6, 1923.

Highway Bridge

Daytona, Fla.

The Board of County Commissioners of Volusia County, Florida, will receive sealed bids for the construction of a highway bridge across the Halifax River from Fairview Ave., Daytona, Fla., to Main Street in Daytona Beach, Fla., this is at the location of the present Central Bridge. The plans call for about 2300 feet of 24 foot trestle, one 55 foot draw span and 150 feet of stone wall and embankment fill. Bids will be received for prime and heart pine lumber specifications and for creosoted pine. The pile will be creosoted pine and also heart specification pine with concrete protection.

Plans and specifications may be seen at the office of the Engineer, C. M. Rogers, Daytona, Fla., or the Clerk of the Board of County Commissioners, S. D. Jordan at Deland, Fla. Bids will be opened at Deland, Fla., at the County Court House at 10 A. M., Aug. 6, 1923, and should be addressed to the Board of County Commissioners, Volusia County, Fla., Marked "Bids for Bridge Across the Halifax River." Any and all bids are subject to rejection.

Bids close August 2, 1923.

Concrete Bridge

Yorktown, Va.

The Board of Supervisors of York County, Virginia, desires bids, to be opened on the 2nd day of August, 1923, for furnishing all material and construction of a concrete bridge at Harwood's Mill Reservoir according to plans and specifications on file in clerk's office at Yorktown, Va., copies of which may be obtained from Virginia State Highway Department, Richmond, Va. Contractor to construct temporary bridge to carry the traffic pending construction of concrete bridge. Payment to be made as follows: 1/3 when all of the material is on the ground, 1/3 when work is 3/4 complete and balance when work is completed and accepted by the Board. Bond for 2/3 of bid required with contract.

The right to reject any and all bids is reserved by the Board.

By order of The Board of Supervisors of York County.

Teste:
FLOYD HOLLOWAY, Clerk.

Bids close July 28, 1923.

Re-inforced Concrete Bridge

Charlottesville, Va.

Sealed proposals will be received by the City Manager July 28th, 1923, at 12 o'clock noon, for the construction of a re-inforced concrete bridge on Rugby Road spanning the C. & O. Railway tracks in the City of Charlottesville, Virginia.

The length of span 72 feet, drive-way 32 feet wide, sidewalk on each side 9 feet wide, height above railroad track 25 feet.

Bids must be made upon blank proposal forms furnished by the City.

Plans and specifications may be seen at the Office of the City's Engineer at Charlottesville, Virginia.

Each proposal must be accompanied by a certified check for One Thousand Dollars, payable to the City of Charlottesville.

Construction bond for the full amount of the contract will be required.

BOYD A. BENNETT,
City Manager.

Bids close August 14, 1923.

Steel and Concrete Bridge

SOUTH CAROLINA STATE HIGHWAY
DEPARTMENT
F. A. PROJECT NO. 215 ASHLEY RIVER
BRIDGE.

Charleston, S. C.

Sealed bids will be received until 12:00 o'clock noon, Tuesday, August 14th, 1923, at the office of the Sanitary & Drainage Commission of Charleston County, 39 Broad Street, Charleston, S. C. for the construction of a steel and concrete bridge over the Ashley River, on State Highway No. 6, at Charleston, S. C.

The work to be done consists of the construction of a 1733 ft. Steel and Concrete bridge, including a 166 ft. double leaf Strauss Bascule span. Bridge will have a 34 foot roadway and two 4 1/2 ft. sidewalks.

Proposal No. 1 consists of the bascule span superstructure and approaches having twenty concrete girder spans, 60 ft. to 76 ft. on concrete substructure. Principal quantities for approaches are approximately:

Class AA Concrete.....	18,480 cu. yds.
Reinforcing Steel.....	1,570,000 lbs.
16" square concrete piles..	52,600 lin. ft.
18" square concrete piles..	3,000 tons
Roadway Paving.....	34' x 18' x 6" 06' 6"
Rip rap.....	31' x 18' x 9" 08' 6"

Proposal No. 2 consists of the bascule span superstructure, and approaches having fifteen steel deck plate girder spans, 80 ft. and 100 ft. with concrete floor, on concrete substructure. Principal quantities for approaches are approximately:

Structural Steel.....	3,400,000 lbs.
Reinforcing Steel.....	348,000 lbs.
Class AA Concrete.....	11,680 cu. yds.
Castings.....	110,000 lbs.
Roadway Paving.....	5,900 sq. yds.
16" square concrete piles..	39,500 lin. ft.
18" square concrete piles..	4,860 lin. ft.
Rip rap.....	3,000 tons

The bascule span superstructure is same for both Proposals, the principal quantities being approximately:

Structural Steel.....	756,800 lbs.
Machinery & Castings....	144,800 lbs.
Counterweight Concrete...	480 cu. yds.
Creosoted Timber.....	34 M.B.M.
Electrical Operating Equipment complete.	

Bidders may submit bids based on one or both proposals.

Bids must be accompanied by a certified check or corporate surety bond made in South Carolina for Sixteen Thousand Dollars (\$16,000.00), made payable to the Chairman of the South Carolina State Highway Commission. Bidders submitting alternate bids need furnish only one check.

After July 22nd proposal forms, plans and specifications will be on file at the office of the Sanitary & Drainage Commission of Charleston County, 39 Broad Street, Charleston, S. C. Proposal forms, plans and specifications may be secured at the offices of the State Highway Engineer, Columbia, S. C. Requests for plans must be accompanied by a check for Five Dollars (\$5.00) and no refund will be made for plans returned.

Bids close August 23, 1923.

Bridge Construction

Clearwater, Fla.

Sealed proposals will be received by the Board of County Commissioners of Pinellas County at the Courthouse at Clearwater, Florida, up until 10 o'clock A. M. Thursday, August 23, 1923, at which time they will be opened and read publicly, for the furnishing of the necessary materials, equipment, tools and labor for the construction of seven (7) concrete deck girder bridges, ten (10) concrete flat slab bridges, one (1) creosoted timber bridge built in connection with a twenty-five (25) foot single leaf steel lift span, which will be one-half of a fifty foot clear span. The general requirements for the lift span are as follows: Leading one fifteen (15) ton truck with 30 per cent allowance for impact of all live load stresses twenty foot clear roadway, wooden floor laminated type, bids to include substructure and superstructure complete in place. All the above structures including the retaining walls, approaches and fills include the following approximate quantities:

38,000 cubic yards of dredged embankment.
2,200 cubic yards of class "A" concrete.
560 cubic yards of class "B" concrete.
225,000 pounds of reinforcing steel.
7,700 lineal feet of wood foundation piles.
400 lineal feet of concrete piles.
12,000 lineal feet of creosoted timber piles.
1,132 lineal feet of concrete railing.
375,000 FBM. creosoted timber bulkheads.
65,000 FBM. creosoted timber for bridges.

All complete in place according to the plans and specifications on file in the County Engineers office at Clearwater, Florida.

Bidders will be required to submit detail plans and specifications with their bid on the 25 foot steel liftspan and sufficient time will be reserved to check same.

Proposals will be considered on the lump sum basis for alternate types of concrete structures including all the approaches and fills all complete in place according to the specifications on file, and alternate plans must be submitted and filed with the County Engineer at least two days before date of opening proposals.

Plans and specifications may be secured from the County Engineer after July 12, upon payment of ten dollars (\$10.00) which will be refunded upon return of said plans and specifications in good condition within fifteen (15) days from the date of opening proposals.

All proposals shall be accompanied by either a certified check on a Pinellas County Bank, and drawn to the order of Pinellas County, E. H. Beckett, Chairman, or by a Bidders Bond executed by a resident Agent now doing business in Pinellas County, representing a Surety Company authorized to do business in the State of Florida, and otherwise acceptable to the County. Such certified check or bidders bond shall be in the sum of Five per cent (5%) of the total amount of the proposal accompanied by the same.

A Construction Bond in the sum of one hundred per cent (100%) of the amount of the contract with a Surety Company complying with all the requirements above noted will be required for each contract.

Bidders may submit proposals for all the completed structures on each road or on the combined structures on all roads, it being understood, however, that the County reserves the right to award the work as it deems best, either separately or a whole.

The County reserves the right to select the type of bridges and to reject any or all bids.

Board of County Commissioners, Pinellas County Florida.

E. H. BECKETT, Chairman.

C. E. BURLESON, County Engineer.

Attest:
J. M. BROWN, Clerk.

Dated July 3rd, 1923.